

Appendix B – ICPR Input File (Existing Conditions)

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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Church Creek Existing Conditions (Dec 2000)

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***** Input Report *****
-----Class: Node-----
  Name: N-G010      Base Flow(cfs): 0      Init Stage(ft): 3.5
  Group: BL        Warn Stage(ft): 8
  Comment:

  Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-G020      Base Flow(cfs): 0      Init Stage(ft): 3.5
  Group: BL        Warn Stage(ft): 8
  Comment:

  Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-G030      Base Flow(cfs): 0      Init Stage(ft): 6
  Group: BL        Warn Stage(ft): 10
  Comment:

  Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-G040      Base Flow(cfs): 0      Init Stage(ft): 6
  Group: BL        Warn Stage(ft): 11.5
  Comment:

  Time(hrs)      Stage(ft)
  0              6
  12             8
  24             8
  36             7
  48             6
-----Class: Node-----
  Name: N-G050      Base Flow(cfs): 0      Init Stage(ft): 4.3
  Group: BL        Warn Stage(ft): 10
  Comment:

  Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-G060      Base Flow(cfs): 0      Init Stage(ft): 9.5
  Group: BL        Warn Stage(ft): 13.9
  Comment: PS N-I1

  Stage(ft)      Area(ac)
  3.5            0.1
  9.5            0.22
  10             0.24
  11             0.3
  12             0.35
  13             0.41
  14             0.41
-----Class: Node-----
  Name: N-G070      Base Flow(cfs): 0      Init Stage(ft): 9.5
  Group: BL        Warn Stage(ft): 13.5
  Comment: PS N-H1

  Stage(ft)      Area(ac)
  3.5            0.04
  9.5            0.09
  10             0.1
  11             0.12
  12             0.14
  13             0.17
-----Class: Node-----
  Name: N-G080      Base Flow(cfs): 0      Init Stage(ft): 9.5
  Group: BL        Warn Stage(ft): 13
  Comment: PS N-G1

  Stage(ft)      Area(ac)
  3.5            0.27
  9.5            0.65
  10             0.7
  11             0.8
  12             0.89
  13             0.99
-----Class: Node-----
  Name: N-G090      Base Flow(cfs): 0      Init Stage(ft): 12
  Group: BL        Warn Stage(ft): 15
  Comment: PS N-F1

  Stage(ft)      Area(ac)
  6              0.38
  12             0.69
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13          0.8
14          0.91
15          1.02
-----Class: Node-----
      Name: N-G100      Base Flow(cfs): 0      Init Stage(ft): 4.6
      Group: BL          Warn Stage(ft): 10
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-G110      Base Flow(cfs): 0      Init Stage(ft): 9
      Group: BL          Warn Stage(ft): 14
      Comment: PS N-D1

Stage(ft)      Area(ac)
3              0.11
10             0.28
11             0.32
12             0.37
13             0.42
14             0.51
-----Class: Node-----
      Name: N-G120      Base Flow(cfs): 0      Init Stage(ft): 9.5
      Group: BL          Warn Stage(ft): 14
      Comment: PS N-C1

Stage(ft)      Area(ac)
3.5            0.13
9.5            0.3
10             0.32
11             0.37
12             0.41
13             0.46
14             0.51
-----Class: Node-----
      Name: N-G130      Base Flow(cfs): 0      Init Stage(ft): 10.5
      Group: BL          Warn Stage(ft): 15
      Comment: PS N-B1

Stage(ft)      Area(ac)
4.5            0.26
10.5           0.39
11             0.42
12             0.47
13             0.52
14             0.58
15             0.64
-----Class: Node-----
      Name: N-G140      Base Flow(cfs): 0      Init Stage(ft): 10.5
      Group: BL          Warn Stage(ft): 17
      Comment: PS N-A1

Stage(ft)      Area(ac)
4.5            0.13
10.5           0.24
11             0.27
12             0.31
13             0.36
14             0.41
15             0.47
16             0.59
17             0.72
-----Class: Node-----
      Name: N-G150      Base Flow(cfs): 0      Init Stage(ft): 10.75
      Group: BL          Warn Stage(ft): 13.5
      Comment: PS N-OFF

Stage(ft)      Area(ac)
10.75          0.001
11.2           0.002
12             0.04
13             0.2
13.5           0.31
17             0.31
-----Class: Node-----
      Name: N-G160      Base Flow(cfs): 0      Init Stage(ft): 11
      Group: BL          Warn Stage(ft): 14
      Comment: PS N-E1

Stage(ft)      Area(ac)
5              0.2
11             0.45
12             0.52
13             0.6
14             0.68
-----Class: Node-----
      Name: N-G170      Base Flow(cfs): 0      Init Stage(ft): 5.8
      Group: BL          Warn Stage(ft): 12
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-G180      Base Flow(cfs): 0      Init Stage(ft): 5.7
      Group: BL          Warn Stage(ft): 12

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Comment:

Stage(ft)    Area(ac)
5.7          1
10           7
12           52
-----Class: Node-----
      Name: N-B010      Base Flow(cfs): 0      Init Stage(ft): 1.9
      Group: HH                               Warn Stage(ft): 8.1
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B020      Base Flow(cfs): 0      Init Stage(ft): 1.9
      Group: HH                               Warn Stage(ft): 8.55
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B030      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH                               Warn Stage(ft): 8.55
Comment:

Stage(ft)    Area(ac)
2            0.68
5            0.87
5.5          0.95
6            1.01
6.5          1.07
7            1.14
7.5          1.7
8            2.21
8.5          2.64
11           2.64
-----Class: Node-----
      Name: N-B040      Base Flow(cfs): 0      Init Stage(ft): 8
      Group: HH                               Warn Stage(ft): 11
Comment: Elevation of pond set 3 ft lower than plans

Stage(ft)    Area(ac)
7            1.36
7.5          1.37
8            1.5
8.5          1.64
9            1.79
9.5          1.99
10           2.1
10.5         2.2
11           2.61
-----Class: Node-----
      Name: N-B050      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH                               Warn Stage(ft): 8.55
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B060      Base Flow(cfs): 0      Init Stage(ft): 2.25
      Group: HH                               Warn Stage(ft): 8.55
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B070      Base Flow(cfs): 0      Init Stage(ft): 2.5
      Group: HH                               Warn Stage(ft): 8.55
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B080      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH                               Warn Stage(ft): 8.55
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B090      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH                               Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B100      Base Flow(cfs): 0      Init Stage(ft): 3.5
      Group: HH                               Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B110      Base Flow(cfs): 0      Init Stage(ft): 4
      Group: HH                               Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B120      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH                               Warn Stage(ft): 10

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Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B130      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B140      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B150      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B160      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B170      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 9.5
Comment:

Stage(ft)    Area(ac)
2            1.1
5            1.4
6            1.44
7            1.51
8            1.57
9            1.64
9.5          2.54
11           2.54
-----Class: Node-----
      Name: N-B180      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B190      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B200      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B210      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B220      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: HH          Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
      Name: N-B230      Base Flow(cfs): 0      Init Stage(ft): 9
      Group: HH          Warn Stage(ft): 13
Comment: Elevation of pond set 3 ft lower than plans

Stage(ft)    Area(ac)
7            4.85
9            4.85
9.5          4.93
10           5.3
10.5         5.41
11           5.51
11.5         5.87
12           6.14
13           6.82
-----Class: Node-----
      Name: N-F010      Base Flow(cfs): 0      Init Stage(ft): 7
      Group: MC          Warn Stage(ft): 13.25
Comment: PS N-BB1

Stage(ft)    Area(ac)
1            1.7
7            2.47

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8          2.82
9          3.05
10         3.54
11         4.02
12         4.28
13         4.55
13.25     4.65
-----Class: Node-----
      Name: N-F020      Base Flow(cfs): 0      Init Stage(ft): 3
      Group: MC          Warn Stage(ft): 12
      Comment: PS N-AB4A

      Stage(ft)      Area(ac)
      3              0.001
      12             0.001
      13             0.001
-----Class: Node-----
      Name: N-F030      Base Flow(cfs): 0      Init Stage(ft): 7
      Group: MC          Warn Stage(ft): 13
      Comment: PS N-AB4

      Stage(ft)      Area(ac)
      1              1.4626
      7              2.0295
      8              2.2231
      9              2.4191
      10             2.6174
      11             2.818
      12             3.0834
      13             3.2811
-----Class: Node-----
      Name: N-F040      Base Flow(cfs): 0      Init Stage(ft): 7
      Group: MC          Warn Stage(ft): 13
      Comment: PS N-AB3

      Stage(ft)      Area(ac)
      3              0.3059
      9              0.5167
      10             0.5986
      11             0.6827
      12             0.7692
      13             0.8579
-----Class: Node-----
      Name: N-F050      Base Flow(cfs): 0      Init Stage(ft): 7
      Group: MC          Warn Stage(ft): 13.3
      Comment: PS N-AB2A

      Stage(ft)      Area(ac)
      6.5            0.001
      13             0.001
      14             0.001
-----Class: Node-----
      Name: N-F060      Base Flow(cfs): 0      Init Stage(ft): 9.5
      Group: MC          Warn Stage(ft): 13
      Comment: PS N-AB2

      Stage(ft)      Area(ac)
      3.5            1.022
      9.5            1.3391
      10             1.3948
      11             1.5088
      12             1.6257
      13             1.7453
      14             1.7453
-----Class: Node-----
      Name: N-F070      Base Flow(cfs): 0      Init Stage(ft): 10.5
      Group: MC          Warn Stage(ft): 15.65
      Comment: PS N-AB1

      Stage(ft)      Area(ac)
      10.5           0.001
      15.65          0.001
-----Class: Node-----
      Name: N-F080      Base Flow(cfs): 0      Init Stage(ft): 12.3
      Group: MC          Warn Stage(ft): 15.65
      Comment: PS N-AB1A

      Stage(ft)      Area(ac)
      12.3           0.001
      13             0.005
      14             0.036
      15.6           0.2
      17             0.2
-----Class: Node-----
      Name: N-A010      Base Flow(cfs): 0      Init Stage(ft): 0
      Group: RR          Warn Stage(ft): 0
      Comment: Tailwater from Ashley (Max HHW & HLW for past 10y)

      Time(hrs)      Stage(ft)
      0              0
      4              -1.1
      10             4.8
      16             -1.1
      22             4.8

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28      -1.1
34      4.8
40      -1.1
46      4.8
52      -1.1
58      4.8
64      -1.1
70      4.8
76      -1.1
82      4.8
88      -1.1
94      4.8
400     4.8
-----Class: Node-----
      Name: N-A011      Base Flow(cfs): 0      Init Stage(ft): 0
      Group: RR                          Warn Stage(ft): 0
      Comment: Tide info for 27July01 storm

Ghost Node
0        0
3        -2
10       2.5
16       -1.9
22       3.8
28       -1.1
32       1.5
-----Class: Node-----
      Name: N-A015      Base Flow(cfs): 0      Init Stage(ft): 0
      Group: RR                          Warn Stage(ft): 0
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A020      Base Flow(cfs): 0      Init Stage(ft): 0
      Group: RR                          Warn Stage(ft): 0
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A030      Base Flow(cfs): 0      Init Stage(ft): 0
      Group: RR                          Warn Stage(ft): 0
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A040      Base Flow(cfs): 0      Init Stage(ft): 1
      Group: RR                          Warn Stage(ft): 0
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A050      Base Flow(cfs): 0      Init Stage(ft): 2
      Group: RR                          Warn Stage(ft): 8
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A060      Base Flow(cfs): 0      Init Stage(ft): 3
      Group: RR                          Warn Stage(ft): 8
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A090      Base Flow(cfs): 0      Init Stage(ft): 5
      Group: RR                          Warn Stage(ft): 9
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A100      Base Flow(cfs): 0      Init Stage(ft): 5.85
      Group: RR                          Warn Stage(ft): 14.8
      Comment:

Stage(ft)      Area(ac)
5.85      0.2
8         0.66
8.5       3.13
9         6.41
9.5       11.24
10        13.81
10.5      15.95
11        18.6
-----Class: Node-----
      Name: N-A110      Base Flow(cfs): 0      Init Stage(ft): 1.5
      Group: RR                          Warn Stage(ft): 8
      Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-A120      Base Flow(cfs): 0      Init Stage(ft): 1.7
      Group: RR                          Warn Stage(ft): 8
      Comment:

Stage(ft)      Area(ac)

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-----Class: Node-----
Name: N-A130      Base Flow(cfs): 0      Init Stage(ft): 4
Group: RR        Warn Stage(ft): 8
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-A140      Base Flow(cfs): 0      Init Stage(ft): 4
Group: RR        Warn Stage(ft): 8
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C010      Base Flow(cfs): 0      Init Stage(ft): 3
Group: SM1       Warn Stage(ft): 12.4
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C020      Base Flow(cfs): 0      Init Stage(ft): 3.2
Group: SM1       Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C030      Base Flow(cfs): 0      Init Stage(ft): 3.4
Group: SM1       Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C040      Base Flow(cfs): 0      Init Stage(ft): 3.6
Group: SM1       Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C050      Base Flow(cfs): 0      Init Stage(ft): 3.7
Group: SM1       Warn Stage(ft): 8.9
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C060      Base Flow(cfs): 0      Init Stage(ft): 4.78
Group: SM1       Warn Stage(ft): 9.6
Comment:

Stage(ft)      Area(ac)
0              0
7.5            0
7.75          0.1
8              0.2
8.5           0.5
9             1.08
9.5           3.69
10            4.52
10.5          5.3
11            5.87
11.5          6.78
12            6.78
-----Class: Node-----
Name: N-C070      Base Flow(cfs): 0      Init Stage(ft): 3.7
Group: SM1       Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C080      Base Flow(cfs): 0      Init Stage(ft): 4
Group: SM1       Warn Stage(ft): 11.4
Comment:

Stage(ft)      Area(ac)
3.9            0
4              0.3
6.8            0.4
7              2
7.5            2.26
8              2.33
9              2.53
9.5            2.98
10             3.22
10.5           3.47
11             3.88
11.5           7.2
12            16
-----Class: Node-----
Name: N-C090      Base Flow(cfs): 0      Init Stage(ft): 4
Group: SM1       Warn Stage(ft): 11.9
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
Name: N-C100      Base Flow(cfs): 0      Init Stage(ft): 4
Group: SM1       Warn Stage(ft): 11.9

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Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C110    Base Flow(cfs): 0          Init Stage(ft): 7.8
  Group: SM1      Warn Stage(ft): 9.5
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C120    Base Flow(cfs): 0          Init Stage(ft): 7.85
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C130    Base Flow(cfs): 0          Init Stage(ft): 7.85
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C140    Base Flow(cfs): 0          Init Stage(ft): 9.5
  Group: SM1      Warn Stage(ft): 11.5
Comment:

Stage(ft)    Area(ac)
9.5          0.58
10           0.62
10.5         0.7
11           0.74
11.5         0.9
11.6         1.92
12           2.78
12.5         3.3
-----Class: Node-----
  Name: N-C150    Base Flow(cfs): 0          Init Stage(ft): 7.85
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C160    Base Flow(cfs): 0          Init Stage(ft): 7.85
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C170    Base Flow(cfs): 0          Init Stage(ft): 7.85
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C180    Base Flow(cfs): 0          Init Stage(ft): 7.85
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C190    Base Flow(cfs): 0          Init Stage(ft): 3
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C200    Base Flow(cfs): 0          Init Stage(ft): 3.75
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C210    Base Flow(cfs): 0          Init Stage(ft): 3.75
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C220    Base Flow(cfs): 0          Init Stage(ft): 4.5
  Group: SM1      Warn Stage(ft): 10
Comment:

Stage(ft)    Area(ac)
-----Class: Node-----
  Name: N-C230    Base Flow(cfs): 0          Init Stage(ft): 5.7
  Group: SM1      Warn Stage(ft): 9.8
Comment:

Stage(ft)    Area(ac)
5.7          2.53
7.5          2.53
8            2.76
8.5          2.89
9            3.06

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9.5      4.82
10       5.67
10.5     6.61
11       7.4
11.5     10.95
12       10.95
-----Class: Node-----
      Name: N-C240      Base Flow(cfs): 0      Init Stage(ft): 6
      Group: SM1              Warn Stage(ft): 10.9
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-C250      Base Flow(cfs): 0      Init Stage(ft): 7.5
      Group: SM1              Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-C260      Base Flow(cfs): 0      Init Stage(ft): 7.85
      Group: SM1              Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-C270      Base Flow(cfs): 0      Init Stage(ft): 7
      Group: SM1              Warn Stage(ft): 14.5
Comment:

Stage(ft)      Area(ac)
6           0
7           1
9           1.5
10          1.6
11          1.8
11.5        2.84
12          4
13          6.93
14          12.89
14.5        15.6
15          19.1
-----Class: Node-----
      Name: N-D010      Base Flow(cfs): 0      Init Stage(ft): 3
      Group: SM2              Warn Stage(ft): 10
Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
      Name: N-D020      Base Flow(cfs): 0      Init Stage(ft): 3.5
      Group: SM2              Warn Stage(ft): 9
Comment:

Stage(ft)      Area(ac)
3           1
3.5         1.5
5.5         2.26
6           2.5
6.5         2.71
7.5         4.94
8           6.14
8.5         7.3
9           9.58
12          9.58
-----Class: Node-----
      Name: N-D030      Base Flow(cfs): 0      Init Stage(ft): 5.6
      Group: SM2              Warn Stage(ft): 9
Comment:

Stage(ft)      Area(ac)
5           2.35
5.6         2.35
6           2.85
7           3.08
8           4.95
8.5         7.48
9           7.87
12          7.87
-----Class: Node-----
      Name: N-D040      Base Flow(cfs): 0      Init Stage(ft): 6.17
      Group: SM2              Warn Stage(ft): 11
Comment:

Stage(ft)      Area(ac)
6           0.66
7.5         0.89
8           0.97
9           1.15
9.5         1.59
10          1.92
11          3.59
-----Class: Node-----
      Name: N-D050      Base Flow(cfs): 0      Init Stage(ft): 9
      Group: SM2              Warn Stage(ft): 12
Comment:

```

Stage(ft)	Area(ac)
8	0
8.99	0
9	0.85
9.5	1.2
10	1.3
10.5	1.4
11	1.5
12	1.9

-----Class: Node-----

Name: N-D060	Base Flow(cfs): 0	Init Stage(ft): 9.5
Group: SM2		Warn Stage(ft): 16

Comment:

Stage(ft)	Area(ac)
13	0.45
14.2	0.45
15.5	0.73
16	0.96
16.5	1.18

-----Class: Node-----

Name: N-D070	Base Flow(cfs): 0	Init Stage(ft): 13.6
Group: SM2		Warn Stage(ft): 14.6

Comment:

Stage(ft)	Area(ac)
13	0.45
14.2	0.45
15.5	0.73
16	0.96
16.5	1.18

-----Class: Node-----

Name: N-D080	Base Flow(cfs): 0	Init Stage(ft): 14.2
Group: SM2		Warn Stage(ft): 16.5

Comment:

Stage(ft)	Area(ac)
13	0.45
14.2	0.45
15.5	0.73
16	0.96
16.5	1.18

-----Class: Node-----

Name: N-D090	Base Flow(cfs): 0	Init Stage(ft): 6.2
Group: SM2		Warn Stage(ft): 10.5

Comment:

Stage(ft)	Area(ac)
13	0.45
14.2	0.45
15.5	0.73
16	0.96
16.5	1.18

-----Class: Node-----

Name: N-D100	Base Flow(cfs): 0	Init Stage(ft): 6.2
Group: SM2		Warn Stage(ft): 10.5

Comment:

Stage(ft)	Area(ac)
13	0.45
14.2	0.45
15.5	0.73
16	0.96
16.5	1.18

-----Class: Node-----

Name: N-D110	Base Flow(cfs): 0	Init Stage(ft): 6.2
Group: SM2		Warn Stage(ft): 10

Comment:

Stage(ft)	Area(ac)
6	0.45
7.5	0.56
9	0.62
10	1.06
12	1.06

-----Class: Node-----

Name: N-D120	Base Flow(cfs): 0	Init Stage(ft): 4.8
Group: SM2		Warn Stage(ft): 10

Comment:

Stage(ft)	Area(ac)
6	0.45
7.5	0.56
9	0.62
10	1.06
12	1.06

-----Class: Node-----

Name: N-D130	Base Flow(cfs): 0	Init Stage(ft): 4.5
Group: SM2		Warn Stage(ft): 10

Comment:

Stage(ft)	Area(ac)
6	0.45
7.5	0.56
9	0.62
10	1.06
12	1.06

-----Class: Node-----

Name: N-D140	Base Flow(cfs): 0	Init Stage(ft): 5
Group: SM2		Warn Stage(ft): 10

Comment:

Stage(ft)	Area(ac)
6	0.45
7.5	0.56
9	0.62
10	1.06
12	1.06

-----Class: Node-----

Name: N-D150	Base Flow(cfs): 0	Init Stage(ft): 7
Group: SM2		Warn Stage(ft): 10.6

Comment:

Stage(ft)	Area(ac)
6	0.45
7.5	0.56
9	0.62
10	1.06
12	1.06

-----Class: Node-----

Name: N-D160	Base Flow(cfs): 0	Init Stage(ft): 7
Group: SM2		Warn Stage(ft): 12.1

Comment:

Stage(ft)	Area(ac)
6.9	0
7	1.8
8	1.81
9	2.2
10	2.61
10.7	2.89
11	3
12	7.26

```

12.5      15
13        15
-----Class: Node-----
  Name: N-D170      Base Flow(cfs): 0      Init Stage(ft): 7.5
  Group: SM2                Warn Stage(ft): 10.8
  Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-D180      Base Flow(cfs): 0      Init Stage(ft): 10.5
  Group: SM2                Warn Stage(ft): 14
  Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-D190      Base Flow(cfs): 0      Init Stage(ft): 10
  Group: SM2                Warn Stage(ft): 12
  Comment:

Stage(ft)      Area(ac)
10             0.7
10.5           0.75
12             1
-----Class: Node-----
  Name: N-D200      Base Flow(cfs): 0      Init Stage(ft): 8
  Group: SM2                Warn Stage(ft): 10.8
  Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-D210      Base Flow(cfs): 0      Init Stage(ft): 9
  Group: SM2                Warn Stage(ft): 13
  Comment: PS N010A

Stage(ft)      Area(ac)
9.5            1.0507
10             1.1426
11             1.3282
12             1.5161
13             1.7063
15             1.7063
-----Class: Node-----
  Name: N-D220      Base Flow(cfs): 0      Init Stage(ft): 10.5
  Group: SM2                Warn Stage(ft): 14
  Comment: PS N010

Stage(ft)      Area(ac)
10.5           0.5132
11             0.56
12             0.6554
13             0.7532
14             0.8532
15             0.8532
-----Class: Node-----
  Name: N-E010      Base Flow(cfs): 0      Init Stage(ft): 5.2
  Group: VG                Warn Stage(ft): 10
  Comment:

Stage(ft)      Area(ac)
-----Class: Node-----
  Name: N-E020      Base Flow(cfs): 0      Init Stage(ft): 8
  Group: VG                Warn Stage(ft): 11
  Comment: PS N024

Stage(ft)      Area(ac)
8             1.1122
9             1.209
10            1.3081
11            1.4906
14            1.4906
-----Class: Node-----
  Name: N-E030      Base Flow(cfs): 0      Init Stage(ft): 8
  Group: VG                Warn Stage(ft): 11
  Comment: PS N023

Stage(ft)      Area(ac)
8             0.2219
9             0.2677
10            0.3158
11            0.3662
14            0.3662
-----Class: Node-----
  Name: N-E040      Base Flow(cfs): 0      Init Stage(ft): 9
  Group: VG                Warn Stage(ft): 12
  Comment: PS N022

Stage(ft)      Area(ac)
9             1.8386
10            20.547
11            2.2732
12            2.4939
14            2.4939
-----Class: Node-----
  Name: N-E050      Base Flow(cfs): 0      Init Stage(ft): 9

```

```

Group: VG                                Warn Stage(ft): 12
Comment: PS N021

Stage(ft)   Area(ac)
9           0.7103
10          0.7944
11          0.9038
12          0.9697
14          0.9697
-----Class: Node-----
Name: N-E060   Base Flow(cfs): 0         Init Stage(ft): 10
Group: VG     Warn Stage(ft): 14
Comment: PS N020

Stage(ft)   Area(ac)
10          0.3214
11          0.3652
12          0.4113
13          0.4598
14          0.5105
-----Class: Node-----
Name: N-E070   Base Flow(cfs): 0         Init Stage(ft): 10
Group: VG     Warn Stage(ft): 14
Comment: PS N019

Stage(ft)   Area(ac)
10          0.4076
11          0.4584
12          0.5115
13          0.5669
14          0.6246
15          0.6246
-----Class: Node-----
Name: N-E080   Base Flow(cfs): 0         Init Stage(ft): 10
Group: VG     Warn Stage(ft): 14
Comment: PS N018

Stage(ft)   Area(ac)
10          0.4076
11          0.4584
12          0.5155
13          0.5669
14          0.6246
15          0.6246
-----Class: Node-----
Name: N-E090   Base Flow(cfs): 0         Init Stage(ft): 10.5
Group: VG     Warn Stage(ft): 15
Comment: PS N012

Stage(ft)   Area(ac)
10.5        0.7225
11          0.7752
12          0.8763
13          0.9797
14          1.0854
15          1.1934
-----Class: Node-----
Name: N-E100   Base Flow(cfs): 0         Init Stage(ft): 11
Group: VG     Warn Stage(ft): 14
Comment: PS N011

Stage(ft)   Area(ac)
11          1.5551
12          1.7608
13          1.9687
14          2.179
16          2.179
-----Class: Node-----
Name: N-E110   Base Flow(cfs): 0         Init Stage(ft): 11
Group: VG     Warn Stage(ft): 14
Comment: PS N005A

Stage(ft)   Area(ac)
11          0.6795
12          0.8032
13          0.9292
14          1.0576
17          1.0576
-----Class: Node-----
Name: N-E120   Base Flow(cfs): 0         Init Stage(ft): 13
Group: VG     Warn Stage(ft): 16
Comment: PS N008

Stage(ft)   Area(ac)
13          0.372
14          0.4359
15          0.5406
16          0.6254
17          0.6254
-----Class: Node-----
Name: N-E130   Base Flow(cfs): 0         Init Stage(ft): 13
Group: VG     Warn Stage(ft): 16
Comment: PS N007

```

Stage(ft)	Area(ac)
13	0.3624
14	0.4208
15	0.4815
16	0.5446
17	0.5446

-----Class: Node-----

Name: N-E140	Base Flow(cfs): 0	Init Stage(ft): 15
Group: VG		Warn Stage(ft): 18.5

Comment: PS N006

Stage(ft)	Area(ac)
15	0.3071
16	0.3596
17	0.4144
18	0.4324
18.5	0.5775

-----Class: Node-----

Name: N-E150	Base Flow(cfs): 0	Init Stage(ft): 14
Group: VG		Warn Stage(ft): 17

Comment: PS N002

Stage(ft)	Area(ac)
14	0.1281
15	0.1676
16	0.2093
17	0.2534
19	0.2534

-----Class: Node-----

Name: N-E160	Base Flow(cfs): 0	Init Stage(ft): 15
Group: VG		Warn Stage(ft): 18

Comment: PS N001

Stage(ft)	Area(ac)
15	0.3436
16	0.3967
17	0.452
18	0.5097
19	0.5097

-----Class: Node-----

Name: N-E170	Base Flow(cfs): 0	Init Stage(ft): 13
Group: VG		Warn Stage(ft): 16

Comment: PS N005

Stage(ft)	Area(ac)
13	0.2747
14	0.3191
15	0.3658
16	0.4149
17	0.4149

-----Class: Node-----

Name: N-E180	Base Flow(cfs): 0	Init Stage(ft): 14
Group: VG		Warn Stage(ft): 17

Comment: PS N004

Stage(ft)	Area(ac)
14	0.1664
15	0.2075
16	0.251
17	0.2968
18	0.2968

-----Class: Node-----

Name: N-E190	Base Flow(cfs): 0	Init Stage(ft): 15
Group: VG		Warn Stage(ft): 18

Comment: PS N003

Stage(ft)	Area(ac)
15	0.2467
16	0.2899
17	0.3353
18	0.3831
20	0.3831

-----Class: Node-----

Name: N-E200	Base Flow(cfs): 0	Init Stage(ft): 8
Group: VG		Warn Stage(ft): 11

Comment: PS N017A

Stage(ft)	Area(ac)
8	0.8361
9	0.9189
10	1.0041
11	1.0915
14	1.0915

-----Class: Node-----

Name: N-E210	Base Flow(cfs): 0	Init Stage(ft): 9
Group: VG		Warn Stage(ft): 13

Comment: PS N017

Stage(ft)	Area(ac)
9	0.1934
10	0.2283
11	0.2654
12	0.3049
13	0.3467

```

15          0.3467
-----Class: Node-----
      Name: N-E220      Base Flow(cfs): 0      Init Stage(ft): 10.5
      Group: VG          Warn Stage(ft): 15
      Comment: PS N016

      Stage(ft)      Area(ac)
      10.5          0.2242
      11            0.2387
      12            0.278
      13            0.3197
      14            0.3637
      15            0.4099
      17            0.4099
-----Class: Node-----
      Name: N-E230      Base Flow(cfs): 0      Init Stage(ft): 13
      Group: VG          Warn Stage(ft): 17
      Comment: PS N015

      Stage(ft)      Area(ac)
      13            1.9419
      14            2.2013
      15            2.463
      16            2.7271
      17            2.9935
      18            2.9935
-----Class: Node-----
      Name: N-E240      Base Flow(cfs): 0      Init Stage(ft): 14
      Group: VG          Warn Stage(ft): 18
      Comment: PS N014

      Stage(ft)      Area(ac)
      14            0.709
      15            0.7921
      16            0.8774
      17            0.9651
      18            1.0551
      19            1.0551
-----Class: Node-----
      Name: N-E250      Base Flow(cfs): 0      Init Stage(ft): 14
      Group: VG          Warn Stage(ft): 17
      Comment: PS N013

      Stage(ft)      Area(ac)
      14            1.2572
      15            1.3728
      16            1.4908
      17            1.611
      19            1.611
-----Class: Node-----
      Name: N-E260      Base Flow(cfs): 0      Init Stage(ft): 5.4
      Group: VG          Warn Stage(ft): 10
      Comment:

      Stage(ft)      Area(ac)
      5.4            0
      9.5            1
      11            10
      14            20
-----Class: Node-----
      Name: N-E270      Base Flow(cfs): 0      Init Stage(ft): 7
      Group: VG          Warn Stage(ft): 10
      Comment: PS N025

      Stage(ft)      Area(ac)
      7            0.334
      8            0.3855
      9            0.4393
      10           0.4955
      14           0.4955
-----Class: Cross Section-----
      Name: X-G010-1      Group: BL
      Comment:

      X-Station(ft)      Y-Elevation(ft)      Manning's N
      0                  17                    0.18
      1                  15                    0.18
      1000               10                    0.18
      1694               7                     0.18
      1700               3                     0.05
      1715               3                     0.05
      1721               7                     0.05
      2500               10                    0.18
      3000               14                    0.18
      3001               17                    0.18
-----Class: Cross Section-----
      Name: X-G010-2      Group: BL
      Comment:

      X-Station(ft)      Y-Elevation(ft)      Manning's N
      0                  17                    0.18
      1                  15.1                  0.18
      327                14.6                  0.18
      398                13.1                  0.18

```

576	12.6	0.18
614	12.1	0.18
671	10.5	0.18
704	8.4	0.18
728	7.4	0.18
780	6.9	0.18
881	6.4	0.18
939	5.9	0.18
994	5.4	0.18
1041	5	0.18
1045	2	0.06
1058	2	0.06
1061	5	0.06
1119	5.9	0.18
1131	6.4	0.18
1143	6.9	0.18
1146	7.5	0.18
1156	13	0.18
1157	17	0.18

-----Class: Cross Section-----
 Name: X-G020-1 Group: BL
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.03
1	12.92	0.03
171	13.17	0.03
325	13.42	0.03
326	14	0.03

-----Class: Cross Section-----
 Name: X-G030-1 Group: BL
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.18
1	11.2	0.18
433	10.7	0.18
996	10.2	0.18
1074	10	0.18
1082	7	0.06
1094	7	0.06
1104	10	0.06
1129	10.2	0.18
1134	11.2	0.18
1144	11.8	0.18
1154	12.3	0.18
1165	12.9	0.18
1241	13.9	0.18
1365	14.9	0.18
1366	17	0.18

-----Class: Cross Section-----
 Name: X-G050-1 Group: BL
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17.7	0.15
153	17.2	0.15
179	16.6	0.15
203	15.1	0.15
216	13.5	0.15
248	11.9	0.15
262	11.4	0.15
279	10.9	0.15
307	10.4	0.15
340	9.8	0.15
362	8	0.15
367	4	0.05
376	4	0.05
381	8	0.05
490	9.8	0.15
521	10.3	0.15
554	10.9	0.15
660	11.4	0.15
793	11.9	0.15
866	12.4	0.15
1018	12.9	0.15
1019	17	0.15

-----Class: Cross Section-----
 Name: X-G050-2 Group: BL
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.15
1	13.5	0.15
15	7	0.15
60	6	0.15
63	2.7	0.045
72	2.7	0.045
75	6	0.045
90	10	0.15
200	12.5	0.15
201	17	0.15

-----Class: Cross Section-----
 Name: X-G100-1 Group: BL

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.15
1	14	0.15
350	12	0.15
600	11	0.15
750	10	0.15
775	8.5	0.15
781	4.5	0.05
790	4.5	0.05
796	8.5	0.05
1000	10	0.15
1350	12	0.15
1600	13.5	0.15
1601	17	0.15

-----Class: Cross Section-----

Name: X-G170-1 Group: BL

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.15
1	14	0.15
100	12	0.15
250	11	0.15
400	10	0.15
475	9	0.15
481	5	0.05
489	5	0.05
495	9	0.05
500	10	0.15
650	11.5	0.15
1300	12	0.15
1400	13	0.15
1401	17	0.15

-----Class: Cross Section-----

Name: X-G180-1 Group: BL

Comment: Dirt road

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	11.69	0.6
44	11.53	0.6
55	10.89	0.6
191	10.74	0.6
331	11.18	0.6

-----Class: Cross Section-----

Name: X-B010-1 Group: HH

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	10.9	0.18
74	9.4	0.18
122	8.9	0.18
154	7.8	0.18
190	7.3	0.18
254	6.8	0.18
263	5.7	0.18
551	5.7	0.18
571	1.5	0.045
607	1.5	0.045
609	4.2	0.045
621	5.8	0.045
788	6	0.18
847	6.5	0.18
1021	7	0.18
1086	7.5	0.18
1124	8.5	0.18
1541	9	0.18
1600	11	0.18

-----Class: Cross Section-----

Name: X-B020-1 Group: HH

Comment: Upstream face bridge opening under Bees Ferry

X-Station(ft)	Y-Elevation(ft)	Manning's N
3	8.3	0.03
6	8	0.03
8	6.3	0.03
11	4.1	0.03
14	3	0.03
16	2.3	0.03
21	1.9	0.03
24	1.5	0.03
30	3.3	0.03
32	3.9	0.03
35	6.3	0.03
38	7.8	0.03
40	8.3	0.03

-----Class: Cross Section-----

Name: X-B020-2 Group: HH

Comment: BeesFerry roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	10.8	0.03

190	10.1	0.03
375	9.9	0.03
615	10.1	0.03
845	10.5	0.03
846	15	0.03

-----Class: Cross Section-----
Name: X-B050-1 Group: HH
Comment: Overbanks are defined in main channel section

X-Station(ft)	Y-Elevation(ft)	Manning's N
420	15	0.08
421	7	0.08
449	7	0.08
462	2	0.055
497	2	0.055
509	8	0.055
534	8.8	0.08
555	8.8	0.03
556	15	0.03

-----Class: Cross Section-----
Name: X-B060-1 Group: HH
Comment: Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.03
1	8.82	0.03
104	9.6	0.03
160	10.49	0.03
161	14	0.03

-----Class: Cross Section-----
Name: X-B070-1 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	13	0.08
1	9	0.08
570	8.8	0.08
572	8	0.08
578	2.5	0.055
613	2.5	0.055
616	7.3	0.055
617	7.9	0.08
619	9.1	0.08
621	9.7	0.08
623	10.3	0.08
682	11	0.03

-----Class: Cross Section-----
Name: X-B070-2 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.08
1	7	0.08
185	6.9	0.08
376	7.4	0.08
434	7	0.08
449	7	0.08
462	2	0.055
497	2	0.055
509	8	0.055
534	8.8	0.08
555	8.8	0.03
556	15	0.03

-----Class: Cross Section-----
Name: X-B080-1 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.04
1	10.7	0.04
69	10.2	0.04
101	9.7	0.04
121	9.2	0.04
318	8.7	0.04
336	7	0.04
341	1.5	0.05
399	1.5	0.05
403	4.8	0.05
447	6.9	0.05
530	7.5	0.05
626	8	0.05
670	7.5	0.05
729	7.5	0.05
730	15	0.05

-----Class: Cross Section-----
Name: X-B090-1 Group: HH
Comment: Overbanks are defined in main channel section

X-Station(ft)	Y-Elevation(ft)	Manning's N
55	12	0.04
56	8	0.04
91	7.5	0.04
130	7	0.04
136	2	0.04

170	2	0.04
175	7	0.04
197	7.2	0.03
225	7.7	0.03
226	12	0.03

-----Class: Cross Section-----
Name: X-B110-1 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14.1	0.06
43	13.6	0.06
85	13.1	0.06
96	12.6	0.06
127	10.9	0.06
137	9.3	0.06
139	4	0.05
173	4	0.05
175	8.8	0.05
208	10.9	0.15
378	11.4	0.15
498	11.9	0.15
553	12.4	0.15
586	12.9	0.15
587	15	0.15

-----Class: Cross Section-----
Name: X-B110-2 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.04
1	8	0.04
116	8.1	0.04
242	8	0.04
307	7	0.04
312	3.5	0.05
346	3.5	0.05
351	8	0.05
448	8	0.15
487	8.3	0.15
608	8	0.15
756	8	0.15
757	15	0.15

-----Class: Cross Section-----
Name: X-B120-1 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.04
1	10.7	0.04
69	10.2	0.04
101	9.7	0.04
121	9.2	0.04
318	8.7	0.04
336	7	0.04
341	1.5	0.05
399	1.5	0.05
403	4.8	0.05
447	6.9	0.05
530	7.5	0.05
626	8	0.05
670	7.5	0.05
729	7.5	0.05
730	15	0.05

-----Class: Cross Section-----
Name: X-B130-1 Group: HH
Comment: Overbanks are defined in main channel section

X-Station(ft)	Y-Elevation(ft)	Manning's N
49	12	0.06
50	7	0.06
59	6.5	0.06
68	5.9	0.06
77	5.8	0.06
84	5.5	0.06
94	2	0.05
124	2	0.05
131	4.3	0.05
132	5.5	0.05
141	5.8	0.06
150	6.1	0.06
160	6.7	0.06
184	7.2	0.06
185	12	0.06

-----Class: Cross Section-----
Name: X-B140-1 Group: HH
Comment: Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.03
1	7.67	0.03
100	7.39	0.03
110	7.61	0.03
111	14	0.03

-----Class: Cross Section-----
 Name: X-B150-1 Group: HH
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.06
1	8.4	0.06
31	8.2	0.06
252	8.7	0.06
428	7.9	0.06
432	1.5	0.04
472	1.5	0.04
481	8	0.04
490	9.1	0.06
504	9.6	0.06
558	10.6	0.06
814	10.1	0.06
860	9.6	0.06
882	9.7	0.06
883	14	0.06

-----Class: Cross Section-----
 Name: X-B150-2 Group: HH
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.05
1	7.3	0.05
258	7.8	0.05
291	7.3	0.05
314	6.8	0.05
320	6.3	0.05
326	2	0.045
377	2	0.045
383	6.3	0.045
405	6.8	0.06
420	7.3	0.06
504	7.8	0.06
894	7.3	0.06
895	14	0.06

-----Class: Cross Section-----
 Name: X-B160-1 Group: HH
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.06
1	10	0.06
56	10.1	0.06
94	9.6	0.06
163	9.1	0.06
344	8.6	0.06
358	8.1	0.06
372	7.5	0.06
386	7	0.05
390	1.5	0.05
445	1.5	0.05
450	6.3	0.05
535	7.3	0.05
649	7.8	0.05
703	7.3	0.05
757	7	0.05
758	14	0.05

-----Class: Cross Section-----
 Name: X-B180-1 Group: HH
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.1
0	9.5	0.1
140	9	0.1
160	1.5	0.075
180	1.5	0.075
187	7.9	0.075
385	9	0.18
474	9.5	0.18
535	10	0.18
551	10.5	0.18
597	11	0.18
598	14	0.18

-----Class: Cross Section-----
 Name: X-B190-1 Group: HH
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	20	0.1
0	16.1	0.1
139	15.1	0.1
212	13.1	0.1
248	12.5	0.1
270	14.2	0.1
292	15.3	0.1
355	15.8	0.1
386	14.8	0.1
392	13.7	0.1
401	10	0.1

410	1.5	0.075
437	1.5	0.075
452	13	0.075
479	14.6	0.18
537	16.7	0.18
621	18.2	0.18
734	17.2	0.18
765	20.4	0.18

-----Class: Cross Section-----
Name: X-B200-1 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
79	17.5	0.1
156	17	0.1
201	16.5	0.1
262	15.5	0.1
289	15	0.1
312	1.5	0.075
337	1.5	0.075
347	8.8	0.075
354	12.6	0.04
362	13.4	0.04
380	14.5	0.04
729	15	0.04
730	17	0.04

-----Class: Cross Section-----
Name: X-B210-1 Group: HH
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.1
0	12.6	0.1
18	11.1	0.1
20	10.5	0.1
33	1.5	0.075
65	1.5	0.075
79	13.1	0.075
82	13.8	0.04
85	14.4	0.04
154	15	0.04

-----Class: Cross Section-----
Name: X-F010-1 Group: MC
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	12.5	0.015
0	7	0.015
1	7	0.015
1	10	0.015
1.42	10	0.015
1.42	12.5	0.015

-----Class: Cross Section-----
Name: X-A020-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	12	0.08
88	11.5	0.08
129	11	0.08
251	10.5	0.08
312	10	0.08
346	9.5	0.08
379	9	0.08
384	8.5	0.08
390	8	0.08
574	7.5	0.08
676	8	0.08
745	7.5	0.08
780	6.3	0.08
798	4.6	0.08
817	4.1	0.08
836	3.6	0.08
1000	3	0.08
1005	-4.2	0.05
1020	-4.2	0.05
1025	3	0.05
1379	3.1	0.08
1432	3.6	0.08
1580	4.1	0.08
1637	4.6	0.08
2057	5.1	0.08
2112	7.8	0.08

-----Class: Cross Section-----
Name: X-A030-1 Group: RR
Comment: Upstream face bridge opening under SC 61

X-Station(ft)	Y-Elevation(ft)	Manning's N
3	6.95	0.03
3.1	1.35	0.03
8	-0.05	0.03
16	-2.25	0.03
21.7	-3.45	0.03
24	-3.75	0.03

32	-4.2	0.03
40	-3.95	0.03
43.8	-3.45	0.03
48	-2.75	0.03
56	-2.75	0.03
64	-1.95	0.03
65.9	-1.45	0.03
69	1.35	0.03
72	2.55	0.03
80	5.25	0.03
84	6.95	0.03

-----Class: Cross Section-----

Name: X-A030-2 Group: RR
Comment: SC 61 Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	12	0.03
1	8	0.03
160	7.7	0.03
325	6.8	0.03
475	7.2	0.03
595	8.2	0.03
745	8.8	0.03
800	9.5	0.03
890	9.5	0.03
960	6.9	0.03
1110	6.6	0.03
1300	7.4	0.03
1450	7.8	0.03
1451	12	0.03

-----Class: Cross Section-----

Name: X-A040-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	10.8	0.08
168	8.8	0.08
188	7.7	0.08
206	6.5	0.08
223	6	0.08
281	5.5	0.08
368	5	0.08
387	4	0.08
584	3	0.08
587	-1	0.05
626	-1	0.05
629	3	0.05
833	3.5	0.08
858	6.3	0.08
885	8.5	0.08
903	10.7	0.08
966	11.3	0.08
1034	11.8	0.08

-----Class: Cross Section-----

Name: X-A040-2 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	13.1	0.08
144	11.5	0.08
262	9.5	0.08
280	9	0.08
390	7.4	0.08
452	6.9	0.08
462	5.7	0.08
715	5.1	0.08
739	4.6	0.08
741	4	0.08
1000	3	0.08
1005	-4	0.05
1040	-4	0.05
1045	3	0.05
1282	3.1	0.08
1329	4.7	0.08
1410	5.2	0.08
1425	5.7	0.08
1450	6.3	0.08
1727	6.8	0.08
1792	6.2	0.08
1845	6.7	0.08
1896	7.3	0.08
1920	7.8	0.08
2041	9.3	0.08
2112	10.8	0.08
2271	12.3	0.08
2442	13.9	0.08

-----Class: Cross Section-----

Name: X-A050-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	10.8	0.08
30	8.2	0.08
42	7.6	0.08

94	6.6	0.08
128	2.9	0.08
199	2.4	0.08
250	2	0.08
255	1	0.05
270	1	0.05
275	2	0.05
353	1.9	0.08
416	2.5	0.08
590	3	0.08
646	4.5	0.08
714	5	0.08
827	7.1	0.08
933	8.6	0.08
1011	9.1	0.08
1123	9.6	0.08
1234	10.1	0.08

-----Class: Cross Section-----
Name: X-A060-1 Group: RR
Comment: Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	11.58	0.03
96	10.71	0.03
191	9.66	0.03
312	7.19	0.03
400	7.63	0.03
401	12	0.03

-----Class: Cross Section-----
Name: X-A090-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	9.9	0.15
79	8.9	0.15
115	7.9	0.15
147	6.8	0.15
155	5.3	0.15
249	5	0.15
252	3.5	0.05
260	3.5	0.05
263	5	0.05
337	5.2	0.15
453	7.2	0.15
473	10.2	0.15
507	10.7	0.15
571	12.8	0.15
750	13.4	0.15

-----Class: Cross Section-----
Name: X-A110-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14	0.15
109	13.5	0.15
222	7.1	0.15
342	6.6	0.15
456	6.1	0.15
484	5.6	0.15
647	5	0.15
651	4.5	0.15
655	4.2	0.15
689	4	0.15
693	0	0.05
709	0	0.05
714	4	0.05
736	4.2	0.15
767	4.3	0.15
1041	4.8	0.15
1146	5.3	0.15
1152	5.8	0.15
1164	6.9	0.15
1222	7.4	0.15
1320	7.9	0.15
1518	7.4	0.15
1589	8.9	0.15
1627	10.4	0.15
1705	11	0.15

-----Class: Cross Section-----
Name: X-A110-2 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	10.9	0.15
56	9.3	0.15
183	8.8	0.15
219	7.3	0.15
350	6.8	0.15
408	5.2	0.15
440	4.7	0.15
496	3.1	0.08
732	3	0.08
736	-1	0.05
754	-1	0.05

758	3	0.05
1009	3.1	0.08
1345	5.2	0.15
1398	6.7	0.15
1510	7.2	0.15
1567	8.7	0.15
1661	9.2	0.15
1689	9.7	0.15

-----Class: Cross Section-----
Name: X-A130-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	11	0.1
6	8.3	0.1
9	7	0.1
12	6.4	0.1
17	6	0.1
20	3	0.06
24	3	0.06
27	5.9	0.06
32	6.4	0.18
36	6.9	0.18
39	7.5	0.18
45	8.7	0.18
56	10.4	0.18
72	11	0.18

-----Class: Cross Section-----
Name: X-A140-1 Group: RR
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	11	0.18
38	8.5	0.18
82	7.5	0.18
637	6.9	0.18
644	6.4	0.18
650	5.8	0.18
655	1	0.06
669	1	0.06
675	5.8	0.06
723	6	0.1
726	6.4	0.1
742	5.9	0.1
748	5.4	0.1
759	5.9	0.1
764	6.4	0.1
767	7	0.1
769	7.9	0.1
777	11	0.1

-----Class: Cross Section-----
Name: X-C020-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.15
1	10.6	0.15
4	10	0.15
268	9.3	0.15
318	10.9	0.15
377	11.4	0.15
413	9.8	0.15
418	9.3	0.15
426	5.9	0.06
430	3.2	0.06
438	3.2	0.06
442	5.4	0.06
450	8.4	0.06
494	9	0.04
527	13.4	0.04
544	14	0.04
573	12.9	0.04
614	12.4	0.04
630	11.4	0.04
701	10.8	0.04
716	10.3	0.04
817	9.8	0.04
1011	9.3	0.04
1012	15	0.04

-----Class: Cross Section-----
Name: X-C020-2 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	12.7	0.035
21	10.3	0.035
64	10.1	0.035
98	10.2	0.035
341	10.5	0.035
380	11	0.035
410	5.8	0.035
416	3	0.035
422	3	0.035
428	5.8	0.035

439	10.3	0.035
442	10.9	0.03
521	12.4	0.03
572	12.9	0.03
935	13.4	0.03
955	14.5	0.03
1007	15.1	0.03

-----Class: Cross Section-----
Name: X-C030-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.15
1	11.2	0.15
10	10.7	0.15
18	9.5	0.15
28	7.8	0.15
34	6	0.06
40	3.4	0.06
48	3.4	0.06
54	5	0.06
55	5.9	0.06
57	7.3	0.06
59	8	0.06
103	8.7	0.04
124	8.2	0.04
269	7.7	0.04
283	8.8	0.04
313	9.3	0.04
342	8.8	0.04
408	8.8	0.04
544	9.3	0.04
577	12.7	0.04
600	13.8	0.04
601	15	0.04

-----Class: Cross Section-----
Name: X-C040-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.06
17	13	0.06
25	12	0.06
29	11.1	0.06
33	9.3	0.06
36	7.7	0.045
39	5.6	0.045
44	3.6	0.045
56	3.6	0.045
57	5.6	0.045
71	9.3	0.045
77	9.8	0.03
85	10.4	0.03
113	10.9	0.03
168	11.4	0.03
176	11.9	0.03
187	12.5	0.03
201	13	0.03
211	11.1	0.03
314	10.6	0.03
406	10.1	0.03
475	9.6	0.03
535	9.6	0.03
536	15	0.03

-----Class: Cross Section-----
Name: X-C050-1 Group: SM1
Comment: Left portion of road that drains towards Wolk Dr

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	10.15	0.03
100	9.56	0.03
241	8.9	0.03
242	15	0.03

-----Class: Cross Section-----
Name: X-C050-2 Group: SM1
Comment: Right portion of road that drains to golf course

X-Station(ft)	Y-Elevation(ft)	Manning's N
240	15	0.03
241	8.9	0.03
344	9.15	0.03
442	9.41	0.03
443	15	0.03

-----Class: Cross Section-----
Name: X-C070-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.08
1	11	0.08
86	10.5	0.08
169	9	0.08
171	8.7	0.04

187	8.5	0.04
200	3.6	0.04
206	3.6	0.04
219	8.5	0.04
249	10.5	0.025
276	11	0.025
281	11.6	0.025
292	12.1	0.025
297	11.6	0.025
346	11	0.025
439	10.5	0.025
557	12.5	0.025
622	13	0.025
623	15	0.025

-----Class: Cross Section-----
 Name: X-C070-2 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.04
1	12.9	0.04
40	11.3	0.04
158	10.8	0.04
177	10.2	0.04
196	9.7	0.04
214	9.2	0.04
222	9	0.04
230	3.6	0.04
236	3.6	0.04
247	9	0.04
257	9.1	0.025
268	9.4	0.025
298	9.4	0.025
314	10.1	0.025
335	10.6	0.025
356	11.2	0.025
369	12.3	0.025
384	12.8	0.025
439	13.3	0.025
472	15	0.025

-----Class: Cross Section-----
 Name: X-C080-1 Group: SM1
 Comment: Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	11.39	0.03
158	11.96	0.03
313	12.22	0.03
314	15	0.03

-----Class: Cross Section-----
 Name: X-C090-1 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.04
1	11.5	0.04
149	11.5	0.04
716	10.8	0.04
719	10.1	0.04
720	9.4	0.04
728	4	0.04
745	4	0.04
751	10	0.04
752	10.6	0.08
908	11.1	0.08
1024	11.6	0.08
1061	12.1	0.08
1086	12.7	0.08
1090	15	0.08

-----Class: Cross Section-----
 Name: X-C090-2 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.18
1	12.5	0.18
55	12.2	0.18
104	12.7	0.18
367	13.2	0.18
398	12.7	0.18
406	12.1	0.18
414	11.6	0.18
422	11	0.18
435	6.5	0.18
529	6.5	0.06
533	4	0.06
537	4	0.06
541	6.5	0.06
625	6.5	0.18
656	7	0.18
658	7.9	0.18
674	10.5	0.18
685	11.1	0.18

718	11.6	0.18
749	12.1	0.18
779	12.6	0.18
780	15	0.18

-----Class: Cross Section-----
Name: X-C100-1 Group: SM1
Comment: Roadway over BeesFerry

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	13.73	0.03
162	12.82	0.03
287	12.35	0.03
288	15	0.03

-----Class: Cross Section-----
Name: X-C120-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	18.6	0.05
76	17	0.05
235	16.5	0.05
329	15	0.05
375	13.5	0.05
540	13	0.05
550	11.8	0.05
565	7.8	0.04
573	3.5	0.04
597	3.5	0.04
605	7.8	0.04
614	10.1	0.04
622	12.7	0.05
627	13.2	0.05
636	13.7	0.05
729	14.3	0.05
730	18	0.05

-----Class: Cross Section-----
Name: X-C120-2 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.04
1	14.5	0.04
80	13	0.04
92	10.2	0.04
94	9	0.04
102	7.5	0.05
107	3.5	0.05
117	3.5	0.05
122	7.5	0.05
131	9	0.05
138	9.9	0.05
182	10.4	0.05
204	12	0.05
283	12.6	0.05
343	13.1	0.05
417	14.7	0.05

-----Class: Cross Section-----
Name: X-C130-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	16.6	0.07
39	15.6	0.07
122	15.1	0.07
215	14.6	0.07
232	14	0.07
266	13	0.07
271	12.5	0.07
291	9.7	0.07
298	7.5	0.045
306	3.5	0.045
340	3.5	0.045
348	7.5	0.045
352	9.1	0.045
366	12.8	0.045
389	13.4	0.04
407	12.3	0.04
437	11.8	0.04
455	12.8	0.04
482	13.9	0.04
496	14.9	0.04
561	17	0.04

-----Class: Cross Section-----
Name: X-C130-2 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17.9	0.07
78	17.3	0.07
152	15.8	0.07
225	13.2	0.07
342	11.1	0.07
459	10.6	0.07

523	9.6	0.07
528	9.1	0.07
558	7.8	0.045
566	3.5	0.045
600	3.5	0.045
608	7.8	0.045
631	9.1	0.045
647	11.7	0.04
668	13.2	0.04
700	14.3	0.04
740	14.8	0.04
807	14.3	0.04
903	13.8	0.04
1105	14.3	0.04
1147	14.8	0.04
1210	15.3	0.04
1211	18	0.04

-----Class: Cross Section-----
 Name: X-C150-1 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	16.7	0.04
12	15.6	0.04
62	15	0.04
135	15	0.04
180	13.5	0.04
213	11.4	0.04
228	10.3	0.04
234	9.8	0.04
236	8.3	0.04
244	3.5	0.04
316	3.5	0.04
324	8.3	0.04
336	12.4	0.04
394	13	0.07
526	13.5	0.07
610	14.5	0.07
741	15	0.07
767	15.6	0.07
840	16.1	0.07

-----Class: Cross Section-----
 Name: X-C150-2 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17.2	0.04
29	16.7	0.04
90	14.7	0.04
184	12.6	0.04
251	11.6	0.04
283	11.1	0.04
292	10.6	0.04
296	10.1	0.04
311	9.5	0.04
315	8.3	0.04
323	3.5	0.04
354	3.5	0.04
362	8.3	0.04
366	9.5	0.04
404	12.2	0.07
412	12.7	0.07
490	13.2	0.07
600	13.7	0.07
601	17	0.07

-----Class: Cross Section-----
 Name: X-C160-1 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	16	0.06
1	14.7	0.06
97	14.2	0.06
142	13.6	0.06
316	13.1	0.06
352	13.6	0.06
410	13.1	0.06
423	12.6	0.06
430	10.1	0.06
439	8.5	0.04
447	3.5	0.04
486	3.5	0.04
494	8.5	0.04
502	10.6	0.04
505	12.4	0.06
515	14.9	0.06
528	15.5	0.06
543	16	0.06
609	16.5	0.06

-----Class: Cross Section-----
 Name: X-C170-1 Group: SM1
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
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0	15	0.03
1	12.47	0.03
100	11.88	0.03
200	12.41	0.03
201	15	0.03

-----Class: Cross Section-----
Name: X-C180-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	18	0.08
1	15	0.08
92	15	0.08
103	15.5	0.08
114	16	0.08
205	16.5	0.08
219	16	0.08
233	15.5	0.08
251	15	0.08
257	10.3	0.05
260	9	0.05
270	4	0.05
274	4	0.05
284	9	0.05
298	14.7	0.05
324	15.2	0.08
454	14.7	0.08
570	15.2	0.08
604	15.7	0.08
605	19	0.08

-----Class: Cross Section-----
Name: X-C200-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.18
1	11	0.18
41	10.9	0.18
53	11.4	0.18
59	12	0.18
74	13.1	0.18
81	14.2	0.18
121	14.8	0.18
142	11.3	0.18
154	5.9	0.07
157	3.5	0.07
168	3.5	0.07
171	5.2	0.07
189	10.7	0.07
201	11.4	0.05
240	11.9	0.05
299	12.4	0.05
361	14.5	0.05
383	15	0.05
412	16.6	0.05
440	17.1	0.05
650	17.6	0.05

-----Class: Cross Section-----
Name: X-C200-2 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	18	0.03
1	15	0.03
51	14.5	0.03
85	14.5	0.03
139	15	0.03
148	13.2	0.035
163	3	0.035
173	3	0.035
201	12.5	0.035
204	13	0.03
219	13.5	0.03
283	14.6	0.03
403	16.6	0.03
688	18	0.03

-----Class: Cross Section-----
Name: X-C220-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	16	0.05
1	11	0.05
47	10.5	0.05
64	10	0.05
167	9.5	0.05
190	10	0.05
229	10.5	0.05
297	8.9	0.05
308	5.9	0.045
313	4.5	0.045
335	4.5	0.045
340	5.1	0.045
348	8.8	0.045

416	10.4	0.06
486	10.9	0.06
536	11.4	0.06
600	11.5	0.06
673	11	0.06
716	11.5	0.06
781	12	0.06
782	16	0.06

-----Class: Cross Section-----
Name: X-C220-2 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.03
1	10.9	0.03
72	9.3	0.03
105	8.8	0.03
117	6	0.03
123	4	0.03
134	4	0.03
140	5.4	0.03
142	6.5	0.03
151	8.5	0.03
241	9.1	0.03
280	9.6	0.03
314	10.6	0.03
385	11.2	0.03
414	12.7	0.03
426	13.3	0.03
439	14.9	0.03
453	15.4	0.03
517	17	0.03

-----Class: Cross Section-----
Name: X-C240-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0
1	11.02	0
100	10.91	0
200	11.29	0
201	15	0

-----Class: Cross Section-----
Name: X-C250-1 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	16	0.03
1	12	0.03
46	12	0.03
82	11.5	0.03
133	11	0.03
137	10	0.03
143	7	0.03
151	7	0.03
157	9.4	0.03
159	10.4	0.03
167	11.2	0.03
192	11.7	0.03
362	12.3	0.03
426	13.8	0.03
489	14.3	0.03
538	13.3	0.03
564	12.2	0.03
598	11.7	0.03
656	13.2	0.03
714	14.3	0.03
818	14.8	0.03
819	16	0.03

-----Class: Cross Section-----
Name: X-C250-2 Group: SM1
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	14.9	0.15
58	14	0.15
115	13	0.15
139	13	0.15
211	13.4	0.15
269	13	0.15
327	12	0.15
339	6	0.04
349	6	0.04
361	12	0.04
419	13	0.15
477	14	0.15
727	14	0.15
861	13.8	0.15
918	14	0.15
1011	15.2	0.15

-----Class: Cross Section-----
Name: X-C260-1 Group: SM1
Comment: Ditch alongside BeesFerry

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.06
1	11.9	0.06
3	10.1	0.06
5	8	0.06
17	8	0.06
21	9.1	0.06
23	10.4	0.06
25	11.1	0.08
46	12.7	0.08
110	13.2	0.08
172	13.8	0.08
173	15	0.08

-----Class: Cross Section-----
Name: X-D010-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	16	0.15
1	10.9	0.15
60	9.3	0.15
192	8.8	0.15
202	8.3	0.15
212	7.8	0.15
230	7.3	0.15
332	7	0.15
338	3	0.06
350	3	0.06
354	7	0.06
375	7.3	0.12
417	7.8	0.12
452	8.3	0.12
486	8.8	0.12
632	9.3	0.12
633	15	0.12

-----Class: Cross Section-----
Name: X-D020-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.15
15	13	0.15
45	11	0.15
70	9	0.15
76	6.5	0.15
81	3.5	0.055
94	3.5	0.055
99	6.5	0.055
105	7	0.15
140	8	0.15
250	9	0.15
251	15	0.15

-----Class: Cross Section-----
Name: X-D040-1 Group: SM2
Comment: Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	12	0.03
1	9.34	0.03
100	9.11	0.03
200	9.45	0.03
201	12	0.03

-----Class: Cross Section-----
Name: X-D070-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	21	0.03
1	17	0.03
107	17	0.03
305	16.5	0.03
321	16	0.03
353	15.5	0.03
405	14.5	0.03
418	13.5	0.03
423	13.5	0.03
436	14.5	0.03
538	15	0.03
543	15.6	0.03
563	17.2	0.03
584	17.7	0.03
608	18.2	0.03
652	19.2	0.03
675	20.9	0.03

-----Class: Cross Section-----
Name: X-D070-2 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	18	0.03
1	16.8	0.03
42	16.3	0.03
53	15.8	0.03
65	15.2	0.03

96	14.7	0.03
104	14.2	0.03
112	13.7	0.03
120	13.2	0.03
124	12.6	0.03
127	10	0.03
133	10	0.03
137	12.5	0.03
143	13.9	0.03
149	15.2	0.03
157	16.4	0.03
187	17	0.03
197	15.9	0.03
246	15.3	0.03
252	16.7	0.03
256	17.2	0.03
264	17.7	0.03
275	18.3	0.03

-----Class: Cross Section-----

Name: X-D090-1 Group: SM2
Comment: Roadway

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	10.71	0.03
100	10.49	0.03
200	10.62	0.03
201	15	0.03

-----Class: Cross Section-----

Name: X-D100-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.08
0	11	0.08
140	10	0.08
200	9	0.08
205	7	0.08
208	5.5	0.05
236	5.5	0.05
239	6.5	0.05
243	7	0.05
260	8	0.12
300	9	0.12
380	10	0.12
381	15	0.12

-----Class: Cross Section-----

Name: X-D130 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	9.3	0.03
156	9.1	0.03
236	9	0.12
242	4	0.06
258	4	0.06
264	9	0.06
275	9.4	0.12
287	10	0.12
299	10.5	0.12
310	11.1	0.12
322	12.7	0.12
691	13.2	0.12
692	15	0.12

-----Class: Cross Section-----

Name: X-D130-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	8.9	0.03
141	8.3	0.03
300	8.5	0.03
382	8.8	0.12
392	8.3	0.12
403	3.5	0.06
420	3.5	0.06
429	8.6	0.06
432	8.9	0.12
552	9.5	0.12
574	10	0.12
600	10.5	0.12
757	11	0.12
758	15	0.12

-----Class: Cross Section-----

Name: X-D130-2 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	15	0.03
1	8.5	0.03
58	8.3	0.03
218	8.8	0.03

330	9.3	0.03
355	9.8	0.03
419	10	0.12
431	8.8	0.12
444	4	0.06
460	4	0.06
470	8.2	0.06
473	8.8	0.06
564	10	0.12
631	11	0.12
649	12.6	0.12
675	13.2	0.12
678	13.8	0.12
688	15	0.12

-----Class: Cross Section-----
Name: X-D140-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.05
1	11	0.05
300	11	0.05
348	9	0.05
357	5	0.04
367	5	0.04
377	10	0.04
500	10	0.15
501	17	0.15

-----Class: Cross Section-----
Name: X-D150-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.07
4	13.8	0.07
8	13.1	0.07
10	12.6	0.07
12	12	0.07
22	11	0.07
32	6.5	0.06
38	6.5	0.06
52	10.9	0.06
99	11.5	0.07
123	12	0.07
198	12.5	0.07
363	13	0.07
364	17	0.07

-----Class: Cross Section-----
Name: X-D150-2 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.05
1	11	0.05
400	11	0.05
450	9	0.05
457	5.5	0.04
467	5.5	0.04
474	9.5	0.04
600	10	0.15
601	17	0.15

-----Class: Cross Section-----
Name: X-D180-1 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
647	16.3	0.04
676	15.3	0.04
680	12.8	0.04
684	10	0.045
687	10	0.045
690	11.3	0.045
692	12.2	0.06
740	13	0.06
747	13.6	0.06
755	14.1	0.06
804	14.6	0.06
818	14.1	0.06
828	13.6	0.06
834	13.1	0.06
945	12.9	0.06
1029	13.4	0.06
1152	12.9	0.06

-----Class: Cross Section-----
Name: X-D180-2 Group: SM2
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.15
1	13.5	0.15
88	12	0.15
129	12.5	0.15
144	12	0.15
160	11.5	0.15

210	10.9	0.15
232	9.9	0.15
295	9.9	0.15
297	7	0.05
300	7	0.05
302	9.7	0.05
345	9.7	0.05
395	9.9	0.05
439	10.9	0.05
468	11.5	0.05
487	12	0.05
677	13	0.05
698	13.5	0.05
840	14	0.05
841	17	0.05

-----Class: Cross Section-----
 Name: X-E010-1 Group: VG
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.15
1	11.4	0.15
245	11.2	0.15
446	10.7	0.15
734	10.2	0.15
810	9.7	0.15
835	9.2	0.15
844	9	0.15
848	7	0.15
850	5	0.05
859	5	0.05
862	7.6	0.05
864	9	0.15
910	9.4	0.15
972	9.9	0.15
1027	10.4	0.15
1135	10.9	0.15
1178	11.4	0.15
1200	11.9	0.15
1255	12.9	0.15
1295	14	0.15
1296	17	0.15

-----Class: Cross Section-----
 Name: X-E260-1 Group: VG
 Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	17	0.18
1	10.9	0.18
206	10.3	0.18
291	10	0.18
680	9.5	0.18
708	9.3	0.18
712	7.1	0.18
716	5.3	0.06
721	5.3	0.06
729	7.6	0.06
735	9	0.18
764	9.4	0.18
791	9.9	0.18
835	10.9	0.18
907	11.9	0.18
958	12.9	0.18
992	14	0.18
993	17	0.18

-----Class: Basin-----
 Basin: B-G020 Node: N-G020 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 182.8 Concentration Time(min): 210
 Curve #: 77 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
 Basin: B-G050 Node: N-G050 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 76.1 Concentration Time(min): 180
 Curve #: 77 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
 Basin: B-G060 Node: N-G060 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24

Rainfall Amount(in): 4.6
 Area(ac): 6.22 Concentration Time(min): 23
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS B-I1

-----Class: Basin-----
 Basin: B-G070 Node: N-G070 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 2.37 Concentration Time(min): 16
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS B-H1

-----Class: Basin-----
 Basin: B-G080 Node: N-G080 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 5.29 Concentration Time(min): 14
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS B-G1

-----Class: Basin-----
 Basin: B-G090 Node: N-G090 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 7.38 Concentration Time(min): 19
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS B-F1

-----Class: Basin-----
 Basin: B-G110 Node: N-G110 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 7.36 Concentration Time(min): 13
 Curve #: 85 Time Shift(hrs): 0
 DCIA(%): 0

PS B-D1

-----Class: Basin-----
 Basin: B-G120 Node: N-G120 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 7.88 Concentration Time(min): 24
 Curve #: 83 Time Shift(hrs): 0
 DCIA(%): 0

PS B-C1

-----Class: Basin-----
 Basin: B-G130 Node: N-G130 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 11.79 Concentration Time(min): 28
 Curve #: 83 Time Shift(hrs): 0
 DCIA(%): 0

PS B-B1

-----Class: Basin-----
 Basin: B-G140 Node: N-G140 Status: On Site Type: SCS Unit Hydr
 Group: BL
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
 Rainfall Amount(in): 4.6
 Area(ac): 4.86 Concentration Time(min): 27
 Curve #: 81 Time Shift(hrs): 0
 DCIA(%): 0

PS B-A1

-----Class: Basin-----
 Basin: B-G150 Node: N-G150 Status: On Site Type: SCS Unit Hydr
 Group: BL

Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 37 Concentration Time(min): 123
Curve #: 79 Time Shift(hrs): 0
DCIA(%): 0

PS B-OFF

-----Class: Basin-----
Basin: B-G160 Node: N-G160 Status: On Site Type: SCS Unit Hydr
Group: BL
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 3.69 Concentration Time(min): 18
Curve #: 86 Time Shift(hrs): 0
DCIA(%): 0

PS B-E1

-----Class: Basin-----
Basin: B-G180 Node: N-G180 Status: On Site Type: SCS Unit Hydr
Group: BL
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 317.9 Concentration Time(min): 250
Curve #: 74 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-G181 Node: N-G180 Status: On Site Type: SCS Unit Hydr
Group: BL
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 202.5 Concentration Time(min): 220
Curve #: 72 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-B020 Node: N-B020 Status: On Site Type: SCS Unit Hydr
Group: HH
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 93.4 Concentration Time(min): 138
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-B040 Node: N-B040 Status: On Site Type: SCS Unit Hydr
Group: HH
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 9.1 Concentration Time(min): 27
Curve #: 88 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-B060 Node: N-B060 Status: On Site Type: SCS Unit Hydr
Group: HH
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 107.6 Concentration Time(min): 195
Curve #: 76 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-B100 Node: N-B100 Status: On Site Type: SCS Unit Hydr
Group: HH
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 26.3 Concentration Time(min): 87
Curve #: 78 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----

Basin: B-B140 Node: N-B140 Status: On Site Type: SCS Unit Hydr
Group: HH
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 90.2 Concentration Time(min): 204
 Curve #: 79 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-B160 Node: N-B160 Status: On Site Type: SCS Unit Hydr
Group: HH
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 37.9 Concentration Time(min): 76
 Curve #: 83 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-B170 Node: N-B170 Status: On Site Type: SCS Unit Hydr
Group: HH
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 16.6 Concentration Time(min): 31
 Curve #: 87 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-B230 Node: N-B230 Status: On Site Type: SCS Unit Hydr
Group: HH
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 25.2 Concentration Time(min): 32
 Curve #: 89 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-F010 Node: N-F010 Status: On Site Type: SCS Unit Hydr
Group: MC
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 43.19 Concentration Time(min): 49
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS B-BB1

-----Class: Basin-----
Basin: B-F030 Node: N-F030 Status: On Site Type: SCS Unit Hydr
Group: MC
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 16.46 Concentration Time(min): 30
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS BAB4

-----Class: Basin-----
Basin: B-F040 Node: N-F040 Status: On Site Type: SCS Unit Hydr
Group: MC
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 4.84 Concentration Time(min): 13
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

PS B-AB3

-----Class: Basin-----
Basin: B-F060 Node: N-F060 Status: On Site Type: SCS Unit Hydr
Group: MC
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 24.34 Concentration Time(min): 20
 Curve #: 72 Time Shift(hrs): 0
 DCIA(%): 0

PS B-AB2

```

-----Class: Basin-----
Basin: B-F080      Node: N-F080      Status: On Site      Type: SCS Unit Hydr
Group: MC
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 7.55                      Concentration Time(min): 38
    Curve #: 73                      Time Shift(hrs): 0
    DCIA(%): 0

    PS B-AB1A

-----Class: Basin-----
Basin: B-A030      Node: N-A030      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 536.7                      Concentration Time(min): 300
    Curve #: 84                      Time Shift(hrs): 0
    DCIA(%): 0

-----Class: Basin-----
Basin: B-A040      Node: N-A040      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 402.6                      Concentration Time(min): 275
    Curve #: 83                      Time Shift(hrs): 0
    DCIA(%): 0

-----Class: Basin-----
Basin: B-A041      Node: N-A041      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 388.4                      Concentration Time(min): 270
    Curve #: 85                      Time Shift(hrs): 0
    DCIA(%): 0

-----Class: Basin-----
Basin: B-A060      Node: N-A060      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 62.8                      Concentration Time(min): 133
    Curve #: 76                      Time Shift(hrs): 0
    DCIA(%): 0

-----Class: Basin-----
Basin: B-A100      Node: N-A100      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 52                      Concentration Time(min): 129
    Curve #: 82                      Time Shift(hrs): 0
    DCIA(%): 0

-----Class: Basin-----
Basin: B-A120      Node: N-A120      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 99.3                      Concentration Time(min): 135
    Curve #: 83                      Time Shift(hrs): 0
    DCIA(%): 0

-----Class: Basin-----
Basin: B-A140      Node: N-A140      Status: On Site      Type: SCS Unit Hydr
Group: RR
    Unit Hydrograph: UH323                      Peak Factor: 323
    Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
    Area(ac): 348.5                      Concentration Time(min): 260
    Curve #: 79                      Time Shift(hrs): 0
    DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C010      Node: N-C010      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 27.6                      Concentration Time(min): 52
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C050      Node: N-C050      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 7.6                      Concentration Time(min): 51
  Curve #: 80                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C080      Node: N-C080      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 84.5                      Concentration Time(min): 116
  Curve #: 81                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C120      Node: N-C120      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 60.7                      Concentration Time(min): 100
  Curve #: 84                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C130      Node: N-C130      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 40.6                      Concentration Time(min): 40
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C140      Node: N-C140      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 12.2                      Concentration Time(min): 37
  Curve #: 85                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C150      Node: N-C150      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 36.1                      Concentration Time(min): 88
  Curve #: 78                      Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-C170      Node: N-C170      Status: On Site      Type: SCS Unit Hydr
Group: SM1
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 101.2                      Concentration Time(min): 61

```

Curve #: 82 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-C190 Node: N-C190 Status: On Site Type: SCS Unit Hydr
Group: SM1
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 23.5 Concentration Time(min): 48
 Curve #: 82 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-C230 Node: N-C230 Status: On Site Type: SCS Unit Hydr
Group: SM1
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 48 Concentration Time(min): 28
 Curve #: 84 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-C270 Node: N-C270 Status: On Site Type: SCS Unit Hydr
Group: SM1
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 35.7 Concentration Time(min): 81
 Curve #: 77 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-D010 Node: N-D010 Status: On Site Type: SCS Unit Hydr
Group: SM2
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 23.1 Concentration Time(min): 103
 Curve #: 76 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-D020 Node: N-D020 Status: On Site Type: SCS Unit Hydr
Group: SM2
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 30.5 Concentration Time(min): 74
 Curve #: 81 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-D030 Node: N-D030 Status: On Site Type: SCS Unit Hydr
Group: SM2
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 56.5 Concentration Time(min): 84
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-D050 Node: N-D050 Status: On Site Type: SCS Unit Hydr
Group: SM2
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 22.6 Concentration Time(min): 33
 Curve #: 86 Time Shift(hrs): 0
 DCIA(%): 0

-----Class: Basin-----
Basin: B-D080 Node: N-D080 Status: On Site Type: SCS Unit Hydr
Group: SM2
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24

Rainfall Amount(in): 4.6
Area(ac): 6.8 Concentration Time(min): 38
Curve #: 84 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D110 Node: N-D110 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 29.8 Concentration Time(min): 43
Curve #: 84 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D130 Node: N-D130 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 15.6 Concentration Time(min): 71
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D131 Node: N-D130 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 24.9 Concentration Time(min): 96
Curve #: 63 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D132 Node: N-D130 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 46.3 Concentration Time(min): 93
Curve #: 80 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D140 Node: N-D140 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 19.8 Concentration Time(min): 62
Curve #: 84 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D160 Node: N-D160 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 76.4 Concentration Time(min): 42
Curve #: 86 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D190 Node: N-D190 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 5.7 Concentration Time(min): 23
Curve #: 86 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-D210 Node: N-D210 Status: On Site Type: SCS Unit Hydr
Group: SM2

Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 18.53 Concentration Time(min): 54
Curve #: 83 Time Shift(hrs): 0
DCIA(%): 0

PS B010A

-----Class: Basin-----
Basin: B-D220 Node: N-D220 Status: On Site Type: SCS Unit Hydr
Group: SM2
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 11.75 Concentration Time(min): 45
Curve #: 83 Time Shift(hrs): 0
DCIA(%): 0

PS B010

-----Class: Basin-----
Basin: B-E010 Node: N-E010 Status: On Site Type: SCS Unit Hydr
Group: VG
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 223.4 Concentration Time(min): 225
Curve #: 72 Time Shift(hrs): 0
DCIA(%): 0

-----Class: Basin-----
Basin: B-E020 Node: N-E020 Status: On Site Type: SCS Unit Hydr
Group: VG
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 5.75 Concentration Time(min): 18
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

PS B024

-----Class: Basin-----
Basin: B-E030 Node: N-E030 Status: On Site Type: SCS Unit Hydr
Group: VG
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 6.47 Concentration Time(min): 24
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

PS B023

-----Class: Basin-----
Basin: B-E040 Node: N-E040 Status: On Site Type: SCS Unit Hydr
Group: VG
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 20.89 Concentration Time(min): 29
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

PS B022

-----Class: Basin-----
Basin: B-E050 Node: N-E050 Status: On Site Type: SCS Unit Hydr
Group: VG
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 14.49 Concentration Time(min): 20
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

PS B021

-----Class: Basin-----
Basin: B-E060 Node: N-E060 Status: On Site Type: SCS Unit Hydr
Group: VG
Unit Hydrograph: UH323 Peak Factor: 323
Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
Area(ac): 4.25 Concentration Time(min): 13
Curve #: 85 Time Shift(hrs): 0
DCIA(%): 0

PS B020

-----Class: Basin-----

Basin: B-E070 Node: N-E070 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 5.64 Concentration Time(min): 17
 Curve #: 84 Time Shift(hrs): 0
 DCIA(%): 0

PS B019

-----Class: Basin-----
Basin: B-E080 Node: N-E080 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 7.61 Concentration Time(min): 16
 Curve #: 84 Time Shift(hrs): 0
 DCIA(%): 0

PS B018

-----Class: Basin-----
Basin: B-E090 Node: N-E090 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 14.98 Concentration Time(min): 49
 Curve #: 84 Time Shift(hrs): 0
 DCIA(%): 0

PS B012

-----Class: Basin-----
Basin: B-E100 Node: N-E100 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 18.64 Concentration Time(min): 53
 Curve #: 83 Time Shift(hrs): 0
 DCIA(%): 0

PS B011

-----Class: Basin-----
Basin: B-E110 Node: N-E110 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 13.04 Concentration Time(min): 45
 Curve #: 83 Time Shift(hrs): 0
 DCIA(%): 0

PS B005A

-----Class: Basin-----
Basin: B-E120 Node: N-E120 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 4.37 Concentration Time(min): 25
 Curve #: 82 Time Shift(hrs): 0
 DCIA(%): 0

PS B008

-----Class: Basin-----
Basin: B-E130 Node: N-E130 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 3.57 Concentration Time(min): 20
 Curve #: 83 Time Shift(hrs): 0
 DCIA(%): 0

PS B007

-----Class: Basin-----
Basin: B-E140 Node: N-E140 Status: On Site Type: SCS Unit Hydr
Group: VG
 Unit Hydrograph: UH323 Peak Factor: 323
 Rainfall File: SCSIII Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
 Area(ac): 5.37 Concentration Time(min): 25
 Curve #: 81 Time Shift(hrs): 0
 DCIA(%): 0

PS B006

```

-----Class: Basin-----
Basin: B-E150      Node: N-E150      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 2.97                      Concentration Time(min): 23
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

PS B002

-----Class: Basin-----
Basin: B-E160      Node: N-E160      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 3.97                      Concentration Time(min): 29
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

PS B001

-----Class: Basin-----
Basin: B-E170      Node: N-E170      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 9.21                      Concentration Time(min): 38
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

PS B005

-----Class: Basin-----
Basin: B-E180      Node: N-E180      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 3.2                      Concentration Time(min): 26
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

PS B004

-----Class: Basin-----
Basin: B-E190      Node: N-E190      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 5.1                      Concentration Time(min): 30
  Curve #: 83                      Time Shift(hrs): 0
  DCIA(%): 0

PS B003

-----Class: Basin-----
Basin: B-E200      Node: N-E200      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 6.45                      Concentration Time(min): 15
  Curve #: 84                      Time Shift(hrs): 0
  DCIA(%): 0

PS B017A

-----Class: Basin-----
Basin: B-E210      Node: N-E210      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 2.15                      Concentration Time(min): 10
  Curve #: 84                      Time Shift(hrs): 0
  DCIA(%): 0

PS B017

-----Class: Basin-----
Basin: B-E220      Node: N-E220      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                      Peak Factor: 323
  Rainfall File: SCSIII                      Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 6.73                      Concentration Time(min): 15
  Curve #: 84                      Time Shift(hrs): 0
  DCIA(%): 0

```

PS B016

```

-----Class: Basin-----
Basin: B-E230      Node: N-E230      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 20.1          Concentration Time(min): 30
  Curve #: 84             Time Shift(hrs): 0
  DCIA(%): 0

```

PS B015

```

-----Class: Basin-----
Basin: B-E231      Node: N-E230      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 4             Concentration Time(min): 47
  Curve #: 79             Time Shift(hrs): 0
  DCIA(%): 0

```

PS BOFF3

```

-----Class: Basin-----
Basin: B-E240      Node: N-E240      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 4.48          Concentration Time(min): 12
  Curve #: 84             Time Shift(hrs): 0
  DCIA(%): 0

```

PS B014

```

-----Class: Basin-----
Basin: B-E250      Node: N-E250      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 5.35          Concentration Time(min): 20
  Curve #: 84             Time Shift(hrs): 0
  DCIA(%): 0

```

PS B013

```

-----Class: Basin-----
Basin: B-E251      Node: N-E250      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 59            Concentration Time(min): 142
  Curve #: 79            Time Shift(hrs): 0
  DCIA(%): 0

```

PS BOFF2

```

-----Class: Basin-----
Basin: B-E252      Node: N-E250      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 58            Concentration Time(min): 145
  Curve #: 79            Time Shift(hrs): 0
  DCIA(%): 0

```

PS BOFF1

```

-----Class: Basin-----
Basin: B-E260      Node: N-E260      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 743.9         Concentration Time(min): 330
  Curve #: 77            Time Shift(hrs): 0
  DCIA(%): 0

```

```

-----Class: Basin-----
Basin: B-E270      Node: N-E270      Status: On Site      Type: SCS Unit Hydr
Group: VG
  Unit Hydrograph: UH323                Peak Factor: 323
  Rainfall File: SCSIII                 Storm Duration(hrs): 24
Rainfall Amount(in): 4.6
  Area(ac): 7.94          Concentration Time(min): 49

```

Curve #: 81 Time Shift(hrs): 0
DCIA(%): 0

PS BOFF4

-----Class: Pipe-----

Name: L-G020P1	From Node: N-G020	Length(ft): 28
Group: BL	To Node: N-G010	Count: 1
UPSTREAM DOWNSTREAM Equation: Average K		
Geometry: Circular	Circular	Flow: Both
Span(in): 48	48	Entrance Loss Coef: 0.2
Rise(in): 48	48	Exit Loss Coef: 0.2
Invert(ft): 2.99	2.96	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-G020P2	From Node: N-G020	Length(ft): 68
Group: BL	To Node: N-G010	Count: 1
UPSTREAM DOWNSTREAM Equation: Average K		
Geometry: Circular	Circular	Flow: Both
Span(in): 48	48	Entrance Loss Coef: 0.2
Rise(in): 48	48	Exit Loss Coef: 0.2
Invert(ft): 2.77	2.73	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-G040P1	From Node: N-G040	Length(ft): 24
Group: BL	To Node: N-G030	Count: 1
UPSTREAM DOWNSTREAM Equation: Average K		
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.9
Rise(in): 36	36	Exit Loss Coef: 0.9
Invert(ft): 6	6	Bend Loss Coef: 0
Manning's N: 0.025	0.025	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 6	6	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 6	6	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

-----Class: Pipe-----

Name: L-G060P1	From Node: N-G060	Length(ft): 42
Group: BL	To Node: N-G050	Count: 1
UPSTREAM DOWNSTREAM Equation: Average K		
Geometry: Circular	Circular	Flow: Both
Span(in): 8	8	Entrance Loss Coef: 0.5
Rise(in): 8	8	Exit Loss Coef: 0.5
Invert(ft): 9.5	9.25	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:

Circular Concrete: Groove end projecting 1 3

PS L-I1

-----Class: Pipe-----

Name: L-G070P1	From Node: N-G070	Length(ft): 32
Group: BL	To Node: N-G050	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 15	15	Entrance Loss Coef: 0.5
Rise(in): 15	15	Exit Loss Coef: 0
Invert(ft): 9.5	9.45	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS L-H1

-----Class: Pipe-----

Name: L-G080P1	From Node: N-G080	Length(ft): 106
Group: BL	To Node: N-G070	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Arch	Arch	Flow: Both
Span(in): 38	38	Entrance Loss Coef: 0.5
Rise(in): 24	24	Exit Loss Coef: 0.5
Invert(ft): 8.65	8.65	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Pipe Arch 18" Corner Radius CM: 90ø headwall 34 1

Downstream FHWA Inlet Edge Description:
Pipe Arch 18" Corner Radius CM: 90ø headwall 34 1

PS L-G1

-----Class: Pipe-----

Name: L-G090P1	From Node: N-G090	Length(ft): 104
Group: BL	To Node: N-G080	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 30	30	Entrance Loss Coef: 0.5
Rise(in): 30	30	Exit Loss Coef: 0.5
Invert(ft): 12	6.5	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS L-F1

-----Class: Pipe-----

Name: L-G110P1	From Node: N-G110	Length(ft): 381
Group: BL	To Node: N-G100	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.5
Rise(in): 36	36	Exit Loss Coef: 0.5
Invert(ft): 9	8.5	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

```

PS L-D1
-----Class: Pipe-----
      Name: L-G120P1      From Node: N-G120      Length(ft): 104
      Group: BL           To Node: N-G110      Count: 3

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 42      42      Entrance Loss Coef: 0.5
      Rise(in): 42      42      Exit Loss Coef: 0.5
      Invert(ft): 4.5      4.5      Bend Loss Coef: 0
      Manning's N: 0.012      0.012      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

```

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

```

```

PS L-C1
-----Class: Pipe-----
      Name: L-G130P1      From Node: N-G130      Length(ft): 186
      Group: BL           To Node: N-G120      Count: 2

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 36      36      Entrance Loss Coef: 0.5
      Rise(in): 36      36      Exit Loss Coef: 0.5
      Invert(ft): 10.5      6.5      Bend Loss Coef: 0
      Manning's N: 0.012      0.012      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

```

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

```

```

PS L-B1
-----Class: Pipe-----
      Name: L-G140P1      From Node: N-G140      Length(ft): 370
      Group: BL           To Node: N-G130      Count: 2

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 36      36      Entrance Loss Coef: 0.5
      Rise(in): 36      36      Exit Loss Coef: 0.5
      Invert(ft): 7      7      Bend Loss Coef: 0
      Manning's N: 0.012      0.012      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

```

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

```

```

PS L-A1
-----Class: Pipe-----
      Name: L-G150P1      From Node: N-G150      Length(ft): 282
      Group: BL           To Node: N-G140      Count: 2

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 36      36      Entrance Loss Coef: 0.5
      Rise(in): 36      36      Exit Loss Coef: 0.5
      Invert(ft): 10.75      10.5      Bend Loss Coef: 0
      Manning's N: 0.012      0.012      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

```

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

```

```

PS L-OFF
-----Class: Pipe-----

```

Name: L-G160P1	From Node: N-G160	Length(ft): 38
Group: BL	To Node: N-G100	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 8	8	Entrance Loss Coef: 0.5
Rise(in): 8	8	Exit Loss Coef: 0.5
Invert(ft): 11	10.8	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS L-E1

-----Class: Pipe-----

Name: L-G180P1	From Node: N-G180	Length(ft): 28
Group: BL	To Node: N-G170	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.9
Rise(in): 36	36	Exit Loss Coef: 0.9
Invert(ft): 5.7	5.7	Bend Loss Coef: 0
Manning's N: 0.025	0.025	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular CMP: Projecting	2	3

Downstream FHWA Inlet Edge Description:		
Circular CMP: Projecting	2	3

Existing dirt road over 36" pipe

-----Class: Pipe-----

Name: L-B060P1	From Node: N-B060	Length(ft): 68
Group: HH	To Node: N-B050	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.2
Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 2.25	1.74	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Square edge w/ headwall	1	1

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

-----Class: Pipe-----

Name: L-B230P1	From Node: N-B230	Length(ft): 40
Group: HH	To Node: N-B220	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.2
Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 9	4.6	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

-----Class: Pipe-----

Name: L-F020P1	From Node: N-F020	Length(ft): 222
----------------	-------------------	-----------------

Group: MC	To Node: N-F010	Count: 1
-----------	-----------------	----------

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 60	60	Entrance Loss Coef: 0.4
Rise(in): 60	60	Exit Loss Coef: 0
Invert(ft): 3	2.94	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end w/ headwall	1	2
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS L-AB4A

-----Class: Pipe-----

Name: L-F030P1	From Node: N-F030	Length(ft): 425
Group: MC	To Node: N-F020	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.4
Rise(in): 36	36	Exit Loss Coef: 0
Invert(ft): 7	4	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end w/ headwall	1	2
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end w/ headwall	1	2

PS L-AB4

-----Class: Pipe-----

Name: L-F040P1	From Node: N-F040	Length(ft): 120
Group: MC	To Node: N-F030	Count: 3

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 30	30	Entrance Loss Coef: 0.4
Rise(in): 30	30	Exit Loss Coef: 0
Invert(ft): 9	7	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS L-AB3

-----Class: Pipe-----

Name: L-F050P1	From Node: N-F050	Length(ft): 362
Group: MC	To Node: N-F040	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 48	48	Entrance Loss Coef: 0.4
Rise(in): 48	48	Exit Loss Coef: 0
Invert(ft): 7	5.5	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end w/ headwall	1	2
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS L-AB2A

-----Class: Pipe-----

Name: L-F060P1	From Node: N-F060	Length(ft): 20
Group: MC	To Node: N-F050	Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	36	36	Entrance Loss Coef: 0.4
Rise(in):	36	36	Exit Loss Coef: 0
Invert(ft):	9.5	7	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

PS L-AB2

-----Class: Pipe-----

Name: L-F070P1	From Node: N-F070	Length(ft): 320
Group: MC	To Node: N-F060	Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	36	36	Entrance Loss Coef: 0.5
Rise(in):	36	36	Exit Loss Coef: 0
Invert(ft):	10.5	9	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS L-AB1

-----Class: Pipe-----

Name: L-F080P1	From Node: N-F080	Length(ft): 260
Group: MC	To Node: N-F070	Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	24	24	Entrance Loss Coef: 0.5
Rise(in):	24	24	Exit Loss Coef: 0
Invert(ft):	12.3	11	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

PS L-AB1A

-----Class: Pipe-----

Name: L-A060P1	From Node: N-A060	Length(ft): 43
Group: RR	To Node: N-A050	Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	12	12	Entrance Loss Coef: 0.2
Rise(in):	12	12	Exit Loss Coef: 0.2
Invert(ft):	3	3	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

-----Class: Pipe-----

Name: L-A060P2	From Node: N-A060	Length(ft): 43
Group: RR	To Node: N-A050	Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Rectangular	Rectangular	Flow: Both

Span(in): 96	96	Entrance Loss Coef: 0.2
Rise(in): 30	30	Exit Loss Coef: 0.2
Invert(ft): 4	4	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
 Rectangular Box: 30ø to 75ø wingwall flares 8 1

Downstream FHWA Inlet Edge Description:
 Rectangular Box: 30ø to 75ø wingwall flares 8 1

-----Class: Pipe-----

Name: L-A100P1	From Node: N-A100	Length(ft): 52
Group: RR	To Node: N-A090	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 30	30	Entrance Loss Coef: 0.2
Rise(in): 30	30	Exit Loss Coef: 0.2
Invert(ft): 5.85	6.76	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
 Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
 Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-A120P1	From Node: N-A120	Length(ft): 74
Group: RR	To Node: N-A110	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 68	68	Entrance Loss Coef: 0.2
Rise(in): 68	68	Exit Loss Coef: 0.2
Invert(ft): 1.81	2.06	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 34	34	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
 Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
 Circular Concrete: Groove end projecting 1 3

Arch part of concrete culvert under RR

-----Class: Pipe-----

Name: L-A120P2	From Node: N-A120	Length(ft): 74
Group: RR	To Node: N-A110	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Rectangular	Rectangular	Flow: Both
Span(in): 68	68	Entrance Loss Coef: 0.2
Rise(in): 38	38	Exit Loss Coef: 0.2
Invert(ft): 1.48	1.73	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
 Rectangular Box: 30ø to 75ø wingwall flares 8 1

Downstream FHWA Inlet Edge Description:
 Rectangular Box: 30ø to 75ø wingwall flares 8 1

Bottom part of concrete culvert under RR

-----Class: Pipe-----

Name: L-A120P3	From Node: N-A120	Length(ft): 74
Group: RR	To Node: N-A110	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 72	72	Entrance Loss Coef: 0.2
Rise(in): 72	72	Exit Loss Coef: 0.2

Invert(ft): 1.82	1.73	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

steel pipe #1

-----Class: Pipe-----

Name: L-A120P4	From Node: N-A120	Length(ft): 74
Group: RR	To Node: N-A110	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 72	72	Entrance Loss Coef: 0.2
Rise(in): 72	72	Exit Loss Coef: 0.2
Invert(ft): 1.5	1.73	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

steel pipe #2

-----Class: Pipe-----

Name: L-A120P5	From Node: N-A120	Length(ft): 74
Group: RR	To Node: N-A110	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 72	72	Entrance Loss Coef: 0.2
Rise(in): 72	72	Exit Loss Coef: 0.2
Invert(ft): 1.03	1.7	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

steel pipe #3

-----Class: Pipe-----

Name: L-A120P6	From Node: N-A120	Length(ft): 46
Group: RR	To Node: N-A110	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 48	48	Entrance Loss Coef: 0.2
Rise(in): 48	48	Exit Loss Coef: 0.2
Invert(ft): 2.39	3.17	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Pipe off to the side

-----Class: Pipe-----

Name: L-A120P7	From Node: N-A120	Length(ft): 46
Group: RR	To Node: N-A110	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 48	48	Entrance Loss Coef: 0.2
Rise(in): 48	48	Exit Loss Coef: 0.2
Invert(ft): 2.97	3.51	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw

Top Clip(in): 0 0 Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipe off to the side

-----Class: Pipe-----

Name: L-A140P1 From Node: N-A140 Length(ft): 46
Group: RR To Node: N-A130 Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	48	48	Entrance Loss Coef: 0.2
Rise(in):	48	48	Exit Loss Coef: 0.2
Invert(ft):	3.33	3.39	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-A140P2 From Node: N-A140 Length(ft): 46
Group: RR To Node: N-A130 Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	48	48	Entrance Loss Coef: 0.2
Rise(in):	48	48	Exit Loss Coef: 0.2
Invert(ft):	3.47	3.81	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-C010P1 From Node: N-C010 Length(ft): 48
Group: SM1 To Node: N-B210 Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	60	60	Entrance Loss Coef: 0.9
Rise(in):	60	60	Exit Loss Coef: 0.9
Invert(ft):	2.93	2.5	Bend Loss Coef: 0
Manning's N:	0.025	0.025	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting 2 3

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting 2 3

-----Class: Pipe-----

Name: L-C050P1 From Node: N-C050 Length(ft): 66
Group: SM1 To Node: N-C040 Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	36	36	Entrance Loss Coef: 0.2
Rise(in):	36	36	Exit Loss Coef: 0.2
Invert(ft):	3.63	3.7	Bend Loss Coef: 0
Manning's N:	0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-C050P2	From Node: N-C050	Length(ft): 66
Group: SM1	To Node: N-C040	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.2
Rise(in): 36	36	Exit Loss Coef: 0.2
Invert(ft): 3.94	3.88	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-C060P1	From Node: N-C060	Length(ft): 138
Group: SM1	To Node: N-C020	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.2
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 5.48	4.7	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipes leaving curb inlet

-----Class: Pipe-----

Name: L-C060P2	From Node: N-C060	Length(ft): 134
Group: SM1	To Node: N-C030	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.2
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 4.78	3.86	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipes leaving curb inlet

-----Class: Pipe-----

Name: L-C060P3	From Node: N-C060	Length(ft): 130
Group: SM1	To Node: N-C040	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.2
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 6.15	5.41	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipes leaving curb inlet
-----Class: Pipe-----

Name: L-C080P1 From Node: N-C080 Length(ft): 60
Group: SM1 To Node: N-C070 Count: 1

UPSTREAM DOWNSSTREAM Equation: Average K
Geometry: Circular Circular Flow: Both
Span(in): 48 48 Entrance Loss Coef: 0.2
Rise(in): 48 48 Exit Loss Coef: 0.2
Invert(ft): 4.59 4.16 Bend Loss Coef: 0
Manning's N: 0.012 0.012 Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0 0 Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipe #1 under BeesFerry
-----Class: Pipe-----

Name: L-C080P2 From Node: N-C080 Length(ft): 60
Group: SM1 To Node: N-C070 Count: 1

UPSTREAM DOWNSSTREAM Equation: Average K
Geometry: Circular Circular Flow: Both
Span(in): 48 48 Entrance Loss Coef: 0.2
Rise(in): 48 48 Exit Loss Coef: 0.2
Invert(ft): 3.98 4.07 Bend Loss Coef: 0
Manning's N: 0.012 0.012 Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0 0 Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipe #2 under BeesFerry
-----Class: Pipe-----

Name: L-C100P1 From Node: N-C100 Length(ft): 60
Group: SM1 To Node: N-C090 Count: 1

UPSTREAM DOWNSSTREAM Equation: Average K
Geometry: Circular Circular Flow: Both
Span(in): 48 48 Entrance Loss Coef: 0.2
Rise(in): 48 48 Exit Loss Coef: 0.2
Invert(ft): 4.3 3.93 Bend Loss Coef: 0
Manning's N: 0.012 0.012 Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0 0 Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Pipe #1 under BeesFerry
-----Class: Pipe-----

Name: L-C100P2 From Node: N-C100 Length(ft): 60
Group: SM1 To Node: N-C090 Count: 1

UPSTREAM DOWNSSTREAM Equation: Average K
Geometry: Circular Circular Flow: Both
Span(in): 48 48 Entrance Loss Coef: 0.2
Rise(in): 48 48 Exit Loss Coef: 0.2
Invert(ft): 3.96 4.19 Bend Loss Coef: 0
Manning's N: 0.012 0.012 Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0 0 Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:

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Circular Concrete: Groove end projecting          1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting          1      3

      Pipe #2 under BeesFerry
-----Class: Pipe-----

      Name: L-C140P1      From Node: N-C140      Length(ft): 28
      Group: SM1          To Node: N-C130        Count: 1

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 18      18      Entrance Loss Coef: 0.2
      Rise(in): 18      18      Exit Loss Coef: 0.2
      Invert(ft): 9.5      9      Bend Loss Coef: 0
      Manning's N: 0.012      0.012      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting          1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting          1      3

-----Class: Pipe-----

      Name: L-C170P1      From Node: N-C170      Length(ft): 88
      Group: SM1          To Node: N-C160        Count: 2

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 48      48      Entrance Loss Coef: 0.9
      Rise(in): 48      48      Exit Loss Coef: 0.9
      Invert(ft): 4.3      3.86      Bend Loss Coef: 0
      Manning's N: 0.025      0.025      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting          2      3

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting          2      3

-----Class: Pipe-----

      Name: L-C190P1      From Node: N-C190      Length(ft): 44
      Group: SM1          To Node: N-B200        Count: 1

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Circular      Circular      Flow: Both
      Span(in): 66      66      Entrance Loss Coef: 0.9
      Rise(in): 66      66      Exit Loss Coef: 0.9
      Invert(ft): 3      2.5      Bend Loss Coef: 0
      Manning's N: 0.025      0.025      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting          2      3

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting          2      3

-----Class: Pipe-----

      Name: L-C210P1      From Node: N-C210      Length(ft): 20
      Group: SM1          To Node: N-C200        Count: 2

      UPSTREAM      DOWNSTREAM      Equation: Average K
      Geometry: Arch      Arch      Flow: Both
      Span(in): 48      48      Entrance Loss Coef: 0.9
      Rise(in): 36      36      Exit Loss Coef: 0.9
      Invert(ft): 3.75      3.75      Bend Loss Coef: 0
      Manning's N: 0.025      0.025      Outlet Cntrl Spec: Use dc or tw
      Top Clip(in): 0      0      Inlet Cntrl Spec: Use dn
      Bottom Clip(in): 0      0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Pipe Arch 18" Corner Radius CM: Projecting          34      3

```

Downstream FHWA Inlet Edge Description:
Pipe Arch 18" Corner Radius CM: Projecting 34 3

-----Class: Pipe-----

Name: L-C230P1	From Node: N-C230	Length(ft): 64
Group: SM1	To Node: N-C220	Count: 5
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.2
Rise(in): 36	36	Exit Loss Coef: 0.2
Invert(ft): 5.95	5.55	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Inverts are average of all 5 pipes

-----Class: Pipe-----

Name: L-C240P1	From Node: N-C240	Length(ft): 54
Group: SM1	To Node: N-C230	Count: 5
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.2
Rise(in): 36	36	Exit Loss Coef: 0.2
Invert(ft): 6.2	6.2	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-C270P1	From Node: N-C270	Length(ft): 100
Group: SM1	To Node: N-B190	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.2
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 7	2	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

-----Class: Pipe-----

Name: L-D020P1	From Node: N-D020	Length(ft): 24
Group: SM2	To Node: N-D010	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.9
Rise(in): 18	18	Exit Loss Coef: 0.9
Invert(ft): 4	4	Bend Loss Coef: 0
Manning's N: 0.025	0.025	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Projecting 2 3

Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting 2 3

-----Class: Pipe-----

Name: L-D030P1	From Node: N-D030	Length(ft): 20
Group: SM2	To Node: N-D120	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.9
Rise(in): 18	18	Exit Loss Coef: 0.9
Invert(ft): 6	6	Bend Loss Coef: 0
Manning's N: 0.025	0.025	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular CMP: Projecting	2	3

Downstream FHWA Inlet Edge Description:		
Circular CMP: Projecting	2	3

-----Class: Pipe-----

Name: L-D040P1	From Node: N-D040	Length(ft): 56
Group: SM2	To Node: N-D030	Count: 5
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.2
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 6.17	5.38	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

-----Class: Pipe-----

Name: L-D050P1	From Node: N-D050	Length(ft): 60
Group: SM2	To Node: N-D040	Count: 2
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 8	8	Entrance Loss Coef: 0.2
Rise(in): 8	8	Exit Loss Coef: 0.2
Invert(ft): 9	7	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Square edge w/ headwall	1	1

Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

-----Class: Pipe-----

Name: L-D060P1	From Node: N-D060	Length(ft): 225
Group: SM2	To Node: N-D050	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.9
Rise(in): 24	24	Exit Loss Coef: 0.9
Invert(ft): 10	8	Bend Loss Coef: 0
Manning's N: 0.025	0.025	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular CMP: Projecting	2	3

Downstream FHWA Inlet Edge Description:		
Circular CMP: Projecting	2	3

```

-----Class: Pipe-----
Name: L-D090P1      From Node: N-D090      Length(ft): 108
Group: SM2          To Node: N-D030      Count: 4

UPSTREAM          DOWNSTREAM          Equation: Average K
Geometry: Circular Circular          Flow: Both
Span(in): 36      36      Entrance Loss Coef: 0.2
Rise(in): 36      36      Exit Loss Coef: 0.2
Invert(ft): 6.2   5.3      Bend Loss Coef: 0
Manning's N: 0.012 0.012   Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0    0      Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0  0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

-----Class: Pipe-----
Name: L-D110P1      From Node: N-D110      Length(ft): 24
Group: SM2          To Node: N-D100      Count: 1

UPSTREAM          DOWNSTREAM          Equation: Average K
Geometry: Circular Circular          Flow: Both
Span(in): 24      24      Entrance Loss Coef: 0.2
Rise(in): 24      24      Exit Loss Coef: 0.2
Invert(ft): 6.2   6.2      Bend Loss Coef: 0
Manning's N: 0.012 0.012   Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0    0      Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0  0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

-----Class: Pipe-----
Name: L-D160P1      From Node: N-D160      Length(ft): 12
Group: SM2          To Node: N-D150      Count: 1

UPSTREAM          DOWNSTREAM          Equation: Average K
Geometry: Circular Circular          Flow: Both
Span(in): 12      12      Entrance Loss Coef: 0.2
Rise(in): 12      12      Exit Loss Coef: 0.2
Invert(ft): 7     7      Bend Loss Coef: 0
Manning's N: 0.012 0.012   Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0    0      Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0  0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

-----Class: Pipe-----
Name: L-D170P1      From Node: N-D170      Length(ft): 56
Group: SM2          To Node: N-D160      Count: 3

UPSTREAM          DOWNSTREAM          Equation: Average K
Geometry: Circular Circular          Flow: Both
Span(in): 30      30      Entrance Loss Coef: 0.2
Rise(in): 30      30      Exit Loss Coef: 0.2
Invert(ft): 7.5   7.5      Bend Loss Coef: 0
Manning's N: 0.012 0.012   Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0    0      Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0  0      Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

-----Class: Pipe-----

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Name: L-D190P1	From Node: N-D190	Length(ft): 16
Group: SM2	To Node: N-D180	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.2
Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 10.5	10.5	Bend Loss Coef: 0
Manning's N: 0.012	0.012	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

-----Class: Pipe-----

Name: L-D210P1	From Node: N-D210	Length(ft): 222
Group: SM2	To Node: N-D200	Count: 2
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.5
Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 9	8.25	Bend Loss Coef: 0
Manning's N: 0.011	0.011	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS R010A

-----Class: Pipe-----

Name: L-D220P1	From Node: N-D220	Length(ft): 332
Group: SM2	To Node: N-D210	Count: 1
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 30	30	Entrance Loss Coef: 0.5
Rise(in): 30	30	Exit Loss Coef: 0.2
Invert(ft): 10.5	9.5	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS R010

-----Class: Pipe-----

Name: L-E030P1	From Node: N-E030	Length(ft): 488
Group: VG	To Node: N-E020	Count: 2
UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 30	30	Entrance Loss Coef: 0.5
Rise(in): 30	30	Exit Loss Coef: 0.2
Invert(ft): 8	7	Bend Loss Coef: 0
Manning's N: 0.011	0.011	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3
Downstream FHWA Inlet Edge Description:		
Circular Concrete: Groove end projecting	1	3

PS R023

-----Class: Pipe-----

Name: L-E050P1	From Node: N-E050	Length(ft): 430
Group: VG	To Node: N-E040	Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	36	36	Entrance Loss Coef: 0.5
Rise(in):	36	36	Exit Loss Coef: 0.2
Invert(ft):	9	7	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R021

-----Class: Pipe-----

Name: L-E060P1	From Node: N-E060	Length(ft): 420
Group: VG	To Node: N-E050	Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	15	15	Entrance Loss Coef: 0.5
Rise(in):	15	15	Exit Loss Coef: 0.2
Invert(ft):	10	9	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R020

-----Class: Pipe-----

Name: L-E080P1	From Node: N-E080	Length(ft): 78
Group: VG	To Node: N-E070	Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	48	48	Entrance Loss Coef: 0.5
Rise(in):	48	48	Exit Loss Coef: 0.2
Invert(ft):	10	8	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R018

-----Class: Pipe-----

Name: L-E090P1	From Node: N-E090	Length(ft): 338
Group: VG	To Node: N-E080	Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	54	54	Entrance Loss Coef: 0.5
Rise(in):	54	54	Exit Loss Coef: 0.2
Invert(ft):	10.5	8	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R012

-----Class: Pipe-----

Name: L-E100P1	From Node: N-E100	Length(ft): 384
Group: VG	To Node: N-E090	Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
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Geometry:	Circular	Circular	Flow:	Both
Span(in):	42	42	Entrance Loss Coef:	0.5
Rise(in):	42	42	Exit Loss Coef:	0.2
Invert(ft):	11	9.84	Bend Loss Coef:	0
Manning's N:	0.013	0.013	Outlet Cntrl Spec:	Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
Bottom Clip(in):	0	0	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R011

-----Class: Pipe-----

Name:	L-E110P1	From Node:	N-E110	Length(ft):	68
Group:	VG	To Node:	N-E100	Count:	2

	UPSTREAM	DOWNSTREAM	Equation:	Average K
Geometry:	Circular	Circular	Flow:	Both
Span(in):	36	36	Entrance Loss Coef:	0.5
Rise(in):	36	36	Exit Loss Coef:	0.2
Invert(ft):	11	10.5	Bend Loss Coef:	0
Manning's N:	0.013	0.013	Outlet Cntrl Spec:	Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
Bottom Clip(in):	0	0	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R005A

-----Class: Pipe-----

Name:	L-E120P1	From Node:	N-E120	Length(ft):	126
Group:	VG	To Node:	N-E110	Count:	1

	UPSTREAM	DOWNSTREAM	Equation:	Average K
Geometry:	Circular	Circular	Flow:	Both
Span(in):	36	36	Entrance Loss Coef:	0.5
Rise(in):	36	36	Exit Loss Coef:	0.2
Invert(ft):	13	9.65	Bend Loss Coef:	0
Manning's N:	0.013	0.013	Outlet Cntrl Spec:	Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
Bottom Clip(in):	0	0	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R008

-----Class: Pipe-----

Name:	L-E130P1	From Node:	N-E130	Length(ft):	176
Group:	VG	To Node:	N-E120	Count:	1

	UPSTREAM	DOWNSTREAM	Equation:	Average K
Geometry:	Circular	Circular	Flow:	Both
Span(in):	30	30	Entrance Loss Coef:	0.5
Rise(in):	30	30	Exit Loss Coef:	0.2
Invert(ft):	13	12.63	Bend Loss Coef:	0
Manning's N:	0.013	0.013	Outlet Cntrl Spec:	Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
Bottom Clip(in):	0	0	Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R007

-----Class: Pipe-----

Name:	L-E140P1	From Node:	N-E140	Length(ft):	68
Group:	VG	To Node:	N-E130	Count:	1

	UPSTREAM	DOWNSTREAM	Equation:	Average K
Geometry:	Circular	Circular	Flow:	Both
Span(in):	24	24	Entrance Loss Coef:	0.5

Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 15	14	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R006

-----Class: Pipe-----

Name: L-E150P1	From Node: N-E150	Length(ft): 643
Group: VG	To Node: N-E110	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.5
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 14	9.65	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R002

-----Class: Pipe-----

Name: L-E160P1	From Node: N-E160	Length(ft): 70
Group: VG	To Node: N-E150	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.5
Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 15	14	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R001

-----Class: Pipe-----

Name: L-E170P1	From Node: N-E170	Length(ft): 84
Group: VG	To Node: N-E110	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 36	36	Entrance Loss Coef: 0.5
Rise(in): 36	36	Exit Loss Coef: 0.2
Invert(ft): 13	11.45	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R005

-----Class: Pipe-----

Name: L-E180P1	From Node: N-E180	Length(ft): 386
Group: VG	To Node: N-E170	Count: 1

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 24	24	Entrance Loss Coef: 0.5
Rise(in): 24	24	Exit Loss Coef: 0.2
Invert(ft): 14	10.85	Bend Loss Coef: 0

Manning's N: 0.013 0.013 Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0 0 Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R004

-----Class: Pipe-----

Name: L-E190P1 From Node: N-E190 Length(ft): 206
Group: VG To Node: N-E180 Count: 1

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	18	18	Entrance Loss Coef: 0.5
Rise(in):	18	18	Exit Loss Coef: 0.2
Invert(ft):	15	13.9	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R003

-----Class: Pipe-----

Name: L-E210P1 From Node: N-E210 Length(ft): 80
Group: VG To Node: N-E200 Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	54	54	Entrance Loss Coef: 0.5
Rise(in):	54	54	Exit Loss Coef: 0.2
Invert(ft):	9	7	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R017

-----Class: Pipe-----

Name: L-E230P1 From Node: N-E230 Length(ft): 52
Group: VG To Node: N-E220 Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	54	54	Entrance Loss Coef: 0.5
Rise(in):	54	54	Exit Loss Coef: 0.2
Invert(ft):	13	10	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in):	0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R015

-----Class: Pipe-----

Name: L-E240P1 From Node: N-E240 Length(ft): 84
Group: VG To Node: N-E230 Count: 2

	UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry:	Circular	Circular	Flow: Both
Span(in):	54	54	Entrance Loss Coef: 0.5
Rise(in):	54	54	Exit Loss Coef: 0.2
Invert(ft):	14	10	Bend Loss Coef: 0
Manning's N:	0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in):	0	0	Inlet Cntrl Spec: Use dn

Bottom Clip(in): 0 0 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R014

-----Class: Pipe-----

Name: L-E250P1 From Node: N-E250 Length(ft): 72
Group: VG To Node: N-E240 Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 54	54	Entrance Loss Coef: 0.5
Rise(in): 54	54	Exit Loss Coef: 0.2
Invert(ft): 14	10	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R013

-----Class: Pipe-----

Name: L-E270P1 From Node: N-E270 Length(ft): 180
Group: VG To Node: N-E260 Count: 2

UPSTREAM	DOWNSTREAM	Equation: Average K
Geometry: Circular	Circular	Flow: Both
Span(in): 18	18	Entrance Loss Coef: 0.2
Rise(in): 18	18	Exit Loss Coef: 0.2
Invert(ft): 7	6.64	Bend Loss Coef: 0
Manning's N: 0.013	0.013	Outlet Cntrl Spec: Use dc or tw
Top Clip(in): 0	0	Inlet Cntrl Spec: Use dn
Bottom Clip(in): 0	0	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting 1 3

PS R025

-----Class: Channel-----

Name: L-G010C1 From Node: N-G010 Length(ft): 6500
Group: BL To Node: N-A140 Count: 1

UPSTREAM	DOWNSTREAM	Equation: Aver Conveyance
Geometry: Irregular	Irregular	Flow: Both
Invert(ft): 3.5	1	Eddy Contrac Coef: 0.1
TclipInitZ(ft): 9999	9999	Eddy Expans Coef: 0.3
Manning's N:		Entrance Loss Coef: 0
TClip(ft): 0	0	Exit Loss Coef: 0
BClip(ft): 0	0	Outlet Cntrl Spec: Use dc or tw
Main Xsec: X-G010-1	X-G010-2	Inlet Cntrl Spec: Use dn
AxE11(ft): 0	0	Stabilizer Option: None
Aux Xsec1:		
AxE12(ft): 0	0	
Aux Xsec2:		
TWidth(ft):		
Depth(ft):		
BWidth(ft):		
LSdSlp(h/v):		
RSdSlp(h/v):		

-----Class: Channel-----

Name: L-G030C1 From Node: N-G030 Length(ft): 3300
Group: BL To Node: N-G020 Count: 1

UPSTREAM	DOWNSTREAM	Equation: Aver Conveyance
Geometry: Irregular	Irregular	Flow: Both
Invert(ft): 6	2.7	Eddy Contrac Coef: 0.1
TclipInitZ(ft): 9999	9999	Eddy Expans Coef: 0.3
Manning's N:		Entrance Loss Coef: 0
TClip(ft): 0	0	Exit Loss Coef: 0
BClip(ft): 0	0	Outlet Cntrl Spec: Use dc or tw
Main Xsec: X-G030-1	X-G030-1	Inlet Cntrl Spec: Use dn
AxE11(ft): 0	0	

Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-G050C1 From Node: N-G050 Length(ft): 2800
Group: BL To Node: N-G020 Count: 1

UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 4.3 2.7 Flow: Both
TcIpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: X-G050-1 X-G050-2 Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-G100C1 From Node: N-G100 Length(ft): 2600
Group: BL To Node: N-G050 Count: 1

UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 4.6 4.3 Flow: Both
TcIpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: X-G100-1 X-G100-1 Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-G170C1 From Node: N-G170 Length(ft): 825
Group: BL To Node: N-G100 Count: 1

UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 5.7 4.6 Flow: Both
TcIpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: X-G170-1 X-G170-1 Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-B010C1 From Node: N-B010 Length(ft): 1500
Group: HH To Node: N-A120 Count: 1

UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 1.5 1 Flow: Both
TcIpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0

Main Xsec: X-B010-1 X-B010-1 Outlet Cntrl Spec: Use dc or tw
 AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
 Aux Xsec1: Stabilizer Option: None
 AxEl2(ft): 0 0
 Aux Xsec2:
 TWidth(ft):
 Depth(ft):
 BWidth(ft):
 LSdSlp(h/v):
 RSdSlp(h/v):

-----Class: Channel-----

Name: L-B050C1	From Node: N-B050	Length(ft): 200
Group: HH	To Node: N-B020	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	1.7	1.5	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec: X-B050-1	X-B050-1		Outlet Cntrl Spec: Use dc or tw
AxEl1(ft):	0		Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxEl2(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

Name: L-B070C1	From Node: N-B070	Length(ft): 550
Group: HH	To Node: N-B060	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	2.5	2	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec: X-B070-1	X-B070-2		Outlet Cntrl Spec: Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxEl2(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

Name: L-B080C1	From Node: N-B080	Length(ft): 950
Group: HH	To Node: N-B020	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	1.5	1.5	Flow: Both
TclpInitZ(ft):	99999	99999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec: X-B080-1	X-B080-1		Outlet Cntrl Spec: Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxEl2(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

Name: L-B090C1	From Node: N-B090	Length(ft): 260
Group: HH	To Node: N-B080	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	2	1.5	Flow: Both
TclpInitZ(ft):	99999	99999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3

TClip(ft):	0	Entrance Loss Coef:	0
BClip(ft):	0	Exit Loss Coef:	0
Main Xsec:	X-B090-1	Outlet Cntrl Spec:	Use dc or tw
AxE11(ft):	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:		Stabilizer Option:	None
AxE12(ft):	0		
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

```

-----Class: Channel-----
Name: L-B110C1      From Node: N-B110      Length(ft): 900
Group: HH          To Node: N-B100      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 4      3.5      Flow: Both
TclpInitZ(ft): 9999      9999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-B110-1 X-B110-2      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-B120C1      From Node: N-B120      Length(ft): 900
Group: HH          To Node: N-B080      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 1.5      1.5      Flow: Both
TclpInitZ(ft): 9999      9999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-B120-1 X-B120-1      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-B130C1      From Node: N-B130      Length(ft): 260
Group: HH          To Node: N-B120      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 1.5      1.5      Flow: Both
TclpInitZ(ft): 999      999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-B130-1 X-B130-1      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-B150C1      From Node: N-B150      Length(ft): 1200
Group: HH          To Node: N-B140      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 1.5      1.5      Flow: Both

```

TcIpInitZ(ft): 9999	9999	Eddy Contrac Coef: 0.1
Manning's N:		Eddy Expans Coef: 0.3
TCIip(ft): 0	0	Entrance Loss Coef: 0
BCLip(ft): 0	0	Exit Loss Coef: 0
Main Xsec: X-B150-1	X-B150-2	Outlet Cntrl Spec: Use dc or tw
AXEl1(ft): 0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:		Stabilizer Option: None
AXEl2(ft): 0	0	
Aux Xsec2:		
TWidht(ft):		
Depth(ft):		
BWidht(ft):		
LSdSlp(h/v):		
RSdSlp(h/v):		

-----Class: Channel-----

Name: L-B160C1	From Node: N-B160	Length(ft): 1400
Group: HH	To Node: N-B120	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft): 1.5	1.5		Flow: Both
TcIpInitZ(ft): 9999	9999	Eddy Contrac Coef: 0.1	
Manning's N:		Eddy Expans Coef: 0.3	
TCIip(ft): 0	0	Entrance Loss Coef: 0	
BCLip(ft): 0	0	Exit Loss Coef: 0	
Main Xsec: X-B160-1	X-B160-1	Outlet Cntrl Spec: Use dc or tw	
AXEl1(ft): 0	0	Inlet Cntrl Spec: Use dn	
Aux Xsec1:		Stabilizer Option: None	
AXEl2(ft): 0	0		
Aux Xsec2:			
TWidht(ft):			
Depth(ft):			
BWidht(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

Name: L-B180C1	From Node: N-B180	Length(ft): 460
Group: HH	To Node: N-B160	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft): 1.5	1.5		Flow: Both
TcIpInitZ(ft): 9999	9999	Eddy Contrac Coef: 0.1	
Manning's N:		Eddy Expans Coef: 0.3	
TCIip(ft): 0	0	Entrance Loss Coef: 0	
BCLip(ft): 0	0	Exit Loss Coef: 0	
Main Xsec: X-B180-1	X-B180-1	Outlet Cntrl Spec: Use dc or tw	
AXEl1(ft): 0	0	Inlet Cntrl Spec: Use dn	
Aux Xsec1:		Stabilizer Option: None	
AXEl2(ft): 0	0		
Aux Xsec2:			
TWidht(ft):			
Depth(ft):			
BWidht(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

Name: L-B190C1	From Node: N-B190	Length(ft): 1650
Group: HH	To Node: N-B180	Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft): 1.7	1.5		Flow: Both
TcIpInitZ(ft): 9999	9999	Eddy Contrac Coef: 0.1	
Manning's N:		Eddy Expans Coef: 0.3	
TCIip(ft): 0	0	Entrance Loss Coef: 0	
BCLip(ft): 0	0	Exit Loss Coef: 0	
Main Xsec: X-B190-1	X-B190-1	Outlet Cntrl Spec: Use dc or tw	
AXEl1(ft): 0	0	Inlet Cntrl Spec: Use dn	
Aux Xsec1:		Stabilizer Option: None	
AXEl2(ft): 0	0		
Aux Xsec2:			
TWidht(ft):			
Depth(ft):			
BWidht(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

Name: L-B200C1	From Node: N-B200	Length(ft): 975
Group: HH	To Node: N-B190	Count: 1

UPSTREAM	DOWNSTREAM
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Geometry: Irregular	Irregular	Equation: Aver Conveyance
Invert(ft): 1.8	1.7	Flow: Both
TcIpInitZ(ft): 9999	9999	Eddy Contrac Coef: 0.1
Manning's N:		Eddy Expans Coef: 0.3
TClip(ft): 0	0	Entrance Loss Coef: 0
BClip(ft): 0	0	Exit Loss Coef: 0
Main Xsec: X-B200-1	X-B200-1	Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:		Stabilizer Option: None
AxE12(ft): 0	0	
Aux Xsec2:		
TWidth(ft):		
Depth(ft):		
BWidth(ft):		
LSdSlp(h/v):		
RSdSlp(h/v):		

-----Class: Channel-----
 Name: L-B210C1 From Node: N-B210 Length(ft): 940
 Group: HH To Node: N-B200 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry: Irregular	Irregular		Equation: Aver Conveyance
Invert(ft): 1.9	1.8		Flow: Both
TcIpInitZ(ft): 9999	9999		Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft): 0	0		Entrance Loss Coef: 0
BClip(ft): 0	0		Exit Loss Coef: 0
Main Xsec: X-B210-1	X-B210-1		Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0	0		Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft): 0	0		
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
 Name: L-B220C1 From Node: N-B220 Length(ft): 470
 Group: HH To Node: N-B210 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry: Irregular	Irregular		Equation: Aver Conveyance
Invert(ft): 2	1.9		Flow: Both
TcIpInitZ(ft): 9999	9999		Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft): 0	0		Entrance Loss Coef: 0
BClip(ft): 0	0		Exit Loss Coef: 0
Main Xsec: X-B210-1	X-B210-1		Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0	0		Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft): 0	0		
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
 Name: L-A015C1 From Node: N-A015 Length(ft): 3000
 Group: RR To Node: N-A010 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry: Irregular	Irregular		Equation: Aver Conveyance
Invert(ft): -4.2	-4.2		Flow: Both
TcIpInitZ(ft): 9999	9999		Eddy Contrac Coef: 0.3
Manning's N:			Eddy Expans Coef: 0.5
TClip(ft): 0	0		Entrance Loss Coef: 0
BClip(ft): 0	0		Exit Loss Coef: 0
Main Xsec: X-A020-1	X-A020-1		Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0	0		Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft): 0	0		
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
 Name: L-A020C1 From Node: N-A020 Length(ft): 700
 Group: RR To Node: N-A015 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	-4.2	-4.2	Flow: Both
TcIpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.3
Manning's N:			Eddy Expans Coef: 0.5
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-A020-1	X-A020-1	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
Name: L-A040C1 From Node: N-A040 Length(ft): 6000
Group: RR To Node: N-A030 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	-1	-4.2	Flow: Both
TcIpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-A040-1	X-A040-2	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
Name: L-A050C1 From Node: N-A050 Length(ft): 1300
Group: RR To Node: N-A040 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	2	-1	Flow: Both
TcIpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-A050-1	X-A050-1	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
Name: L-A090C1 From Node: N-A090 Length(ft): 2170
Group: RR To Node: N-A060 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	5	3	Flow: Both
TcIpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-A090-1	X-A090-1	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----

```

Name: L-A110C1      From Node: N-A110      Length(ft): 5100
Group: RR           To Node: N-A040      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 0      -1      Flow: Both
TclpInitZ(ft): 9999      9999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-A110-1      X-A110-2      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-A130C1      From Node: N-A130      Length(ft): 1100
Group: RR           To Node: N-A110      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 3      1      Flow: Both
TclpInitZ(ft): 9999      9999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-A130-1      X-A130-1      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-A140C1      From Node: N-A140      Length(ft): 1100
Group: RR           To Node: N-A120      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 1      1      Flow: Both
TclpInitZ(ft): 9999      9999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-A140-1      X-A140-1      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-C020C1      From Node: N-C020      Length(ft): 300
Group: SM1          To Node: N-C010      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 3.2      3      Flow: Both
TclpInitZ(ft): 9999      9999      Eddy Contrac Coef: 0.1
Manning's N:      Eddy Expans Coef: 0.3
TClip(ft): 0      0      Entrance Loss Coef: 0
BClip(ft): 0      0      Exit Loss Coef: 0
Main Xsec: X-C020-1      X-C020-2      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0      0      Inlet Cntrl Spec: Use dn
Aux Xsec1:      Stabilizer Option: None
AxEl2(ft): 0      0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C030C1      From Node: N-C030      Length(ft): 325
Group: SM1          To Node: N-C020      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 3.4          3.2          Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0            0            Entrance Loss Coef: 0
      BClip(ft): 0            0            Exit Loss Coef: 0
      Main Xsec: X-C030-1      X-C030-1      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0            0            Inlet Cntrl Spec: Use dn
      Aux Xsec1:              Stabilizer Option: None
      AxEl2(ft): 0            0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C040C1      From Node: N-C040      Length(ft): 525
Group: SM1          To Node: N-C030      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 3.6          3.4          Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0            0            Entrance Loss Coef: 0
      BClip(ft): 0            0            Exit Loss Coef: 0
      Main Xsec: X-C040-1      X-C040-1      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0            0            Inlet Cntrl Spec: Use dn
      Aux Xsec1:              Stabilizer Option: None
      AxEl2(ft): 0            0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C070C1      From Node: N-C070      Length(ft): 325
Group: SM1          To Node: N-C050      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 3.6          3.6          Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0            0            Entrance Loss Coef: 0
      BClip(ft): 0            0            Exit Loss Coef: 0
      Main Xsec: X-C070-1      X-C070-2      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0            0            Inlet Cntrl Spec: Use dn
      Aux Xsec1:              Stabilizer Option: None
      AxEl2(ft): 0            0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C090C1      From Node: N-C090      Length(ft): 400
Group: SM1          To Node: N-C080      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 4            4            Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0            0            Entrance Loss Coef: 0
      BClip(ft): 0            0            Exit Loss Coef: 0
      Main Xsec: X-C090-1      X-C090-1      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0            0            Inlet Cntrl Spec: Use dn
      Aux Xsec1:              Stabilizer Option: None
      AxEl2(ft): 0            0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C120C1      From Node: N-C120      Length(ft): 475
Group: SM1          To Node: N-C110      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 3.5      3.5      Flow: Both
TclpInitZ(ft): 9999  9999      Eddy Contrac Coef: 0.1
Manning's N:          Eddy Expans Coef: 0.3
TClip(ft): 0          0          Entrance Loss Coef: 0
BClip(ft): 0          0          Exit Loss Coef: 0
Main Xsec: X-C120-1  X-C120-1      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0          0          Inlet Cntrl Spec: Use dn
Aux Xsec1:           Stabilizer Option: None
AxEl2(ft): 0          0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C120C2      From Node: N-C120      Length(ft): 500
Group: SM1          To Node: N-C260      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 3.5      3.5      Flow: Both
TclpInitZ(ft): 9999  9999      Eddy Contrac Coef: 0.1
Manning's N:          Eddy Expans Coef: 0.3
TClip(ft): 0          0          Entrance Loss Coef: 0
BClip(ft): 0          0          Exit Loss Coef: 0
Main Xsec: X-C120-2  X-C120-2      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0          0          Inlet Cntrl Spec: Use dn
Aux Xsec1:           Stabilizer Option: None
AxEl2(ft): 0          0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C130C1      From Node: N-C130      Length(ft): 1400
Group: SM1          To Node: N-C120      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 3.5      3.5      Flow: Both
TclpInitZ(ft): 9999  9999      Eddy Contrac Coef: 0.1
Manning's N:          Eddy Expans Coef: 0.3
TClip(ft): 0          0          Entrance Loss Coef: 0
BClip(ft): 0          0          Exit Loss Coef: 0
Main Xsec: X-C130-1  X-C130-2      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0          0          Inlet Cntrl Spec: Use dn
Aux Xsec1:           Stabilizer Option: None
AxEl2(ft): 0          0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-C150C1      From Node: N-C150      Length(ft): 1200
Group: SM1          To Node: N-C130      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 3.5      3.5      Flow: Both
TclpInitZ(ft): 9999  9999      Eddy Contrac Coef: 0.1
Manning's N:          Eddy Expans Coef: 0.3
TClip(ft): 0          0          Entrance Loss Coef: 0
BClip(ft): 0          0          Exit Loss Coef: 0
Main Xsec: X-C150-1  X-C150-2      Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0          0          Inlet Cntrl Spec: Use dn
Aux Xsec1:           Stabilizer Option: None
AxEl2(ft): 0          0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):

```

LSdSlp(h/v):
RSdSlp(h/v):

```
-----Class: Channel-----
Name: L-C160C1      From Node: N-C160      Length(ft): 550
Group: SM1          To Node: N-C130      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 3.5          3.5          Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0              Entrance Loss Coef: 0
      BClip(ft): 0              Exit Loss Coef: 0
      Main Xsec: X-C160-1      X-C160-1      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0              Inlet Cntrl Spec: Use dn
      Aux Xsec1:                Stabilizer Option: None
      AxEl2(ft): 0              0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):
```

```
-----Class: Channel-----
Name: L-C180C1      From Node: N-C180      Length(ft): 775
Group: SM1          To Node: N-C170      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 4            4            Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0              Entrance Loss Coef: 0
      BClip(ft): 0              Exit Loss Coef: 0
      Main Xsec: X-C180-1      X-C180-1      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0              Inlet Cntrl Spec: Use dn
      Aux Xsec1:                Stabilizer Option: None
      AxEl2(ft): 0              0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):
```

```
-----Class: Channel-----
Name: L-C200C1      From Node: N-C200      Length(ft): 415
Group: SM1          To Node: N-C190      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Irregular      Irregular      Equation: Aver Conveyance
      Invert(ft): 3.75          3            Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N:              Eddy Expans Coef: 0.3
      TClip(ft): 0              Entrance Loss Coef: 0
      BClip(ft): 0              Exit Loss Coef: 0
      Main Xsec: X-C200-1      X-C200-2      Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft): 0              Inlet Cntrl Spec: Use dn
      Aux Xsec1:                Stabilizer Option: None
      AxEl2(ft): 0              0
      Aux Xsec2:
      TWidth(ft):
      Depth(ft):
      BWidth(ft):
      LSdSlp(h/v):
      RSdSlp(h/v):
```

```
-----Class: Channel-----
Name: L-C210C1      From Node: N-C210      Length(ft): 100
Group: SM1          To Node: N-C030      Count: 1

      UPSTREAM      DOWNSTREAM
      Geometry: Trapezoidal      Trapezoidal      Equation: Aver Conveyance
      Invert(ft): 4            4            Flow: Both
      TcIpInitZ(ft): 9999      9999          Eddy Contrac Coef: 0.1
      Manning's N: 0.045        0.045          Eddy Expans Coef: 0.3
      TClip(ft): 0              Entrance Loss Coef: 0
      BClip(ft): 0              Exit Loss Coef: 0
      Main Xsec:                Outlet Cntrl Spec: Use dc or tw
      AxEl1(ft):                Inlet Cntrl Spec: Use dn
      Aux Xsec1:                Stabilizer Option: None
      AxEl2(ft):
      Aux Xsec2:
      TWidth(ft):
```

Depth(ft):
BWidth(ft): 4 4
LSdSlp(h/v): 2 2
RSdSlp(h/v): 2 2

-----Class: Channel-----
Name: L-C220C1 From Node: N-C220 Length(ft): 575
Group: SM1 To Node: N-C210 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	4.5	3.75	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-C220-1	X-C220-2	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
Name: L-C250C1 From Node: N-C250 Length(ft): 500
Group: SM1 To Node: N-C240 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	7.5	6	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-C250-1	X-C250-2	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
Name: L-C260C1 From Node: N-C260 Length(ft): 600
Group: SM1 To Node: N-C100 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	8.3	4.5	Flow: Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-C260-1	X-C260-1	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
Name: L-D010C1 From Node: N-D010 Length(ft): 700
Group: SM2 To Node: N-B160 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	3	2	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-D010-1	X-D010-1	Outlet Cntrl Spec: Use dc or tw
AxE11(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxE12(ft):	0	0	

Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-D020C1 From Node: N-D020 Length(ft): 55
Group: SM2 To Node: N-B180 Count: 1

 UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 3.5 3 Flow: Both
TclpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: X-D020-1 X-D020-1 Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-D070C1 From Node: N-D070 Length(ft): 680
Group: SM2 To Node: N-D060 Count: 1

 UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 13.6 9.5 Flow: Both
TclpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: X-D070-1 X-D070-2 Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-D100C1 From Node: N-D100 Length(ft): 400
Group: SM2 To Node: N-D090 Count: 1

 UPSTREAM DOWNSTREAM
Geometry: Irregular Irregular Equation: Aver Conveyance
Invert(ft): 5.5 5.5 Flow: Both
TclpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: X-D100-1 X-D100-1 Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0 0 Inlet Cntrl Spec: Use dn
Aux Xsec1: Stabilizer Option: None
AxEl2(ft): 0 0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

-----Class: Channel-----
Name: L-D120C1 From Node: N-D120 Length(ft): 675
Group: SM2 To Node: N-D020 Count: 1

 UPSTREAM DOWNSTREAM
Geometry: Trapezoidal Trapezoidal Equation: Aver Conveyance
Invert(ft): 4.8 3.5 Flow: Both
TclpInitZ(ft): 9999 9999 Eddy Contrac Coef: 0.1
Manning's N: 0.04 0.04 Eddy Expans Coef: 0.3
TClip(ft): 0 0 Entrance Loss Coef: 0
BClip(ft): 0 0 Exit Loss Coef: 0
Main Xsec: Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): Inlet Cntrl Spec: Use dn

Aux Xsec1: Stabilizer Option: None
 AxEl2(ft):
 Aux Xsec2:
 TWidth(ft):
 Depth(ft):
 BWidth(ft): 3 3
 LSdSlp(h/v): 2 2
 RSdSlp(h/v): 2 2

-----Class: Channel-----
 Name: L-D120C2 From Node: N-D120 Length(ft): 1200
 Group: SM2 To Node: N-D130 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Trapezoidal	Trapezoidal	Equation: Aver Conveyance
Invert(ft):	4.8	4.5	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:	0.04	0.04	Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:			Outlet Cntrl Spec: Use dc or tw
AxEl1(ft):			Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxEl2(ft):			
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):	3	3	
LSdSlp(h/v):	2	2	
RSdSlp(h/v):	2	2	

-----Class: Channel-----
 Name: L-D130C1 From Node: N-D130 Length(ft): 1800
 Group: SM2 To Node: N-D010 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	4.5	3	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-D130-2	X-D130-1	Outlet Cntrl Spec: Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxEl2(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
 Name: L-D140C1 From Node: N-D140 Length(ft): 1050
 Group: SM2 To Node: N-D130 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	5	4.5	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0
Main Xsec:	X-D140-1	X-D140-1	Outlet Cntrl Spec: Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:			Stabilizer Option: None
AxEl2(ft):	0	0	
Aux Xsec2:			
TWidth(ft):			
Depth(ft):			
BWidth(ft):			
LSdSlp(h/v):			
RSdSlp(h/v):			

-----Class: Channel-----
 Name: L-D150C1 From Node: N-D150 Length(ft): 2300
 Group: SM2 To Node: N-D140 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Irregular	Irregular	Equation: Aver Conveyance
Invert(ft):	7	5	Flow: Both
TclpInitZ(ft):	9999	9999	Eddy Contrac Coef: 0.1
Manning's N:			Eddy Expans Coef: 0.3
TClip(ft):	0	0	Entrance Loss Coef: 0
BClip(ft):	0	0	Exit Loss Coef: 0

Main Xsec: X-D150-1	X-D150-2	Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0	0	Inlet Cntrl Spec: Use dn
Aux Xsec1:		Stabilizer Option: None
AxE12(ft): 0	0	
Aux Xsec2:		
TWidth(ft):		
Depth(ft):		
BWidth(ft):		
LSdSlp(h/v):		
RSdSlp(h/v):		

```

-----Class: Channel-----
Name: L-D180C1      From Node: N-D180      Length(ft): 1250
Group: SM2          To Node: N-D170      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 10.5    7.5            Flow: Both
TclpInitZ(ft): 9999 9999          Eddy Contrac Coef: 0.1
Manning's N:              Eddy Expans Coef: 0.3
TClip(ft): 0         0            Entrance Loss Coef: 0
BClip(ft): 0         0            Exit Loss Coef: 0
Main Xsec: X-D180-1   X-D180-2      Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0         0            Inlet Cntrl Spec: Use dn
Aux Xsec1:              Stabilizer Option: None
AxE12(ft): 0         0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-D200C1      From Node: N-D200      Length(ft): 900
Group: SM2          To Node: N-D160      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Trapezoidal Trapezoidal    Equation: Aver Conveyance
Invert(ft): 8        7              Flow: Both
TclpInitZ(ft): 9999 9999          Eddy Contrac Coef: 0.1
Manning's N: 0.06    0.06          Eddy Expans Coef: 0.3
TClip(ft): 0         0            Entrance Loss Coef: 0
BClip(ft): 0         0            Exit Loss Coef: 0
Main Xsec:              Outlet Cntrl Spec: Use dc or tw
AxE11(ft):              Inlet Cntrl Spec: Use dn
Aux Xsec1:              Stabilizer Option: None
AxE12(ft):
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft): 4         4
LSdSlp(h/v): 2         2
RSdSlp(h/v): 2         2

```

```

-----Class: Channel-----
Name: L-E010C1      From Node: N-E010      Length(ft): 2300
Group: VG           To Node: N-D140      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 5.2     5              Flow: Both
TclpInitZ(ft): 9999 9999          Eddy Contrac Coef: 0.1
Manning's N:              Eddy Expans Coef: 0.3
TClip(ft): 0         0            Entrance Loss Coef: 0
BClip(ft): 0         0            Exit Loss Coef: 0
Main Xsec: X-E010-1   X-E010-1      Outlet Cntrl Spec: Use dc or tw
AxE11(ft): 0         0            Inlet Cntrl Spec: Use dn
Aux Xsec1:              Stabilizer Option: None
AxE12(ft): 0         0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Channel-----
Name: L-E260C1      From Node: N-E260      Length(ft): 1500
Group: VG           To Node: N-E010      Count: 1

      UPSTREAM      DOWNSTREAM
Geometry: Irregular Irregular      Equation: Aver Conveyance
Invert(ft): 5.4     5.2           Flow: Both
TclpInitZ(ft): 9999 9999          Eddy Contrac Coef: 0.1
Manning's N:              Eddy Expans Coef: 0.3

```

```

TClip(ft): 0          0          Entrance Loss Coef: 0
BClip(ft): 0          0          Exit Loss Coef: 0
Main Xsec: X-E260-1   X-E260-1   Outlet Cntrl Spec: Use dc or tw
AxEl1(ft): 0          0          Inlet Cntrl Spec: Use dn
Aux Xsec1:              Stabilizer Option: None
AxEl2(ft): 0          0
Aux Xsec2:
TWidth(ft):
Depth(ft):
BWidth(ft):
LSdSlp(h/v):
RSdSlp(h/v):

```

```

-----Class: Weir-----
Name: L-G020W1          From Node: N-G020
Group: BL               To Node: N-G010
Count: 1

```

```

Type: Fread    Flow: Both    Geometry: Irregular

```

```

XSec Name: X-G020-1

```

```

Invert(ft): 12.92
Control Elev(ft): 12.92
StructOpeningDim(ft): 9999    TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

```

```

-----Class: Weir-----
Name: L-G040W1          From Node: N-G040
Group: BL               To Node: N-G030
Count: 1

```

```

Type: Fread    Flow: Both    Geometry: Trapezoidal

```

```

Bottom Width(ft): 50
Left Side Slope(h/v): 30
Right Side Slope(h/v): 30
Invert(ft): 11.5
Control Elev(ft): 11.5
StructOpeningDim(ft): 9999    TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 2.8
Orifice Discharge Coef: 0.6

```

```

-----Class: Weir-----
Name: L-G060W1          From Node: N-G060
Group: BL               To Node: N-G050
Count: 1

```

```

Type: Mavis    Flow: Both    Geometry: Trapezoidal

```

```

Bottom Width(ft): 8
Left Side Slope(h/v): 1
Right Side Slope(h/v): 1
Invert(ft): 12.5
Control Elev(ft): 12.5
StructOpeningDim(ft): 999999  TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3.2
Orifice Discharge Coef: 0.6

```

```

PS W-I2

```

```

-----Class: Weir-----
Name: L-G060W2          From Node: N-G060
Group: BL               To Node: N-G050
Count: 1

```

```

Type: Fread    Flow: Both    Geometry: Trapezoidal

```

```

Bottom Width(ft): 30
Left Side Slope(h/v): 0
Right Side Slope(h/v): 0
Invert(ft): 13
Control Elev(ft): 13
StructOpeningDim(ft): 99999  TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3.2
Orifice Discharge Coef: 0.6

```

```

OVERTOPPING

```

```

-----Class: Weir-----
Name: L-G070W1      From Node: N-G070
Group: BL           To Node: N-G050
Count: 1

Type: Mavis      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 10
    Left Side Slope(h/v): 1
    Right Side Slope(h/v): 1
        Invert(ft): 11
    Control Elev(ft): 11
    StructOpeningDim(ft): 99999      TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3.2
    Orifice Discharge Coef: 0.6

    PS W-H2

-----Class: Weir-----
Name: L-G070W2      From Node: N-G070
Group: BL           To Node: N-G050
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 30
    Left Side Slope(h/v): 0
    Right Side Slope(h/v): 0
        Invert(ft): 13
    Control Elev(ft): 13
    StructOpeningDim(ft): 99999      TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3.2
    Orifice Discharge Coef: 0.6

    OVERTOPPING

-----Class: Weir-----
Name: L-G110W1      From Node: N-G110
Group: BL           To Node: N-G100
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 30
    Left Side Slope(h/v): 0
    Right Side Slope(h/v): 0
        Invert(ft): 14
    Control Elev(ft): 14
    StructOpeningDim(ft): 9999      TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3.2
    Orifice Discharge Coef: 0.6

    OVERTOPPING

-----Class: Weir-----
Name: L-G160W1      From Node: N-G160
Group: BL           To Node: N-G100
Count: 1

Type: Mavis      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 8
    Left Side Slope(h/v): 1
    Right Side Slope(h/v): 1
        Invert(ft): 12.5
    Control Elev(ft): 12.5
    StructOpeningDim(ft): 99999      TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3.2
    Orifice Discharge Coef: 0.6

    PS W-E2

-----Class: Weir-----
Name: L-G160W2      From Node: N-G160
Group: BL           To Node: N-G100
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 30
    Left Side Slope(h/v): 0
    Right Side Slope(h/v): 0
        Invert(ft): 14
    Control Elev(ft): 14
    StructOpeningDim(ft): 99999      TABLE

```

```

        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3.2
        Orifice Discharge Coef: 0.6

OVERTOPPING

-----Class: Weir-----
        Name: L-G180W1          From Node: N-G180
        Group: BL                To Node: N-G170
        Count: 1

Type: Fread      Flow: Both      Geometry: Irregular

        XSec Name: X-G180-1

        Invert(ft): 10.74
        Control Elev(ft): 10.74
        StructOpeningDim(ft): 9999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3
        Orifice Discharge Coef: 0.6

        Dirt road

-----Class: Weir-----
        Name: L-B030W1          From Node: N-B030
        Group: HH                To Node: N-B020
        Count: 1

Type: Mavis      Flow: Both      Geometry: Trapezoidal

        Bottom Width(ft): 10
        Left Side Slope(h/v): 1.5
        Right Side Slope(h/v): 1.5
        Invert(ft): 2
        Control Elev(ft): 2
        StructOpeningDim(ft): 9999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3.3
        Orifice Discharge Coef: 0.6

        Channel section leaving lake area

-----Class: Weir-----
        Name: L-B040W1          From Node: N-B040
        Group: HH                To Node: N-B030
        Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

        Bottom Width(ft): 30
        Left Side Slope(h/v): 2
        Right Side Slope(h/v): 20
        Invert(ft): 10
        Control Elev(ft): 10
        StructOpeningDim(ft): 9999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 2.8
        Orifice Discharge Coef: 0.6

        Elevation of pond is set 3 ft lower than plans

-----Class: Weir-----
        Name: L-B060W1          From Node: N-B060
        Group: HH                To Node: N-B050
        Count: 1

Type: Fread      Flow: Both      Geometry: Irregular

        XSec Name: X-B060-1

        Invert(ft): 8.82
        Control Elev(ft): 8.82
        StructOpeningDim(ft): 9999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3
        Orifice Discharge Coef: 0.6

-----Class: Weir-----
        Name: L-B100W1          From Node: N-B100
        Group: HH                To Node: N-B090
        Count: 1

Type: Fread      Flow: Both      Geometry: Rectangular

```

```

        Span(in): 150
        Rise(in): 5
        Invert(ft): 7.6
        Control Elev(ft): 7.6
                                TABLE
        Bottom Clip(in): 0
        Top Clip(in): 0
        Weir Discharge Coef: 3
        Orifice Discharge Coef: 0.6

-----Class: Weir-----
        Name: L-B140W1          From Node: N-B140
        Group: HH                To Node: N-B130
        Count: 1

        Type: Fread      Flow: Both      Geometry: Irregular

        XSec Name: X-B140-1

        Invert(ft): 7.39
        Control Elev(ft): 7.39
        StructOpeningDim(ft): 99999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3
        Orifice Discharge Coef: 0.6

-----Class: Weir-----
        Name: L-B170W1          From Node: N-B170
        Group: HH                To Node: N-B160
        Count: 1

        Type: Mavis      Flow: Both      Geometry: Trapezoidal

        Bottom Width(ft): 10
        Left Side Slope(h/v): 2
        Right Side Slope(h/v): 2
        Invert(ft): 2
        Control Elev(ft): 2
        StructOpeningDim(ft): 99999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3.3
        Orifice Discharge Coef: 0.6

-----Class: Weir-----
        Name: L-B230W1          From Node: N-B230
        Group: HH                To Node: N-B220
        Count: 1

        Type: Fread      Flow: Both      Geometry: Trapezoidal

        Bottom Width(ft): 100
        Left Side Slope(h/v): 50
        Right Side Slope(h/v): 50
        Invert(ft): 12
        Control Elev(ft): 12
        StructOpeningDim(ft): 99999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3
        Orifice Discharge Coef: 0.6

-----Class: Weir-----
        Name: L-A060W1          From Node: N-A060
        Group: RR                To Node: N-A050
        Count: 1

        Type: Fread      Flow: Both      Geometry: Irregular

        XSec Name: X-A060-1

        Invert(ft): 7.19
        Control Elev(ft): 7.19
        StructOpeningDim(ft): 999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3
        Orifice Discharge Coef: 0.6

-----Class: Weir-----

```

```

Name: L-A100W1      From Node: N-A100
Group: RR           To Node: N-A090
Count: 1

Type: Fread      Flow: Both      Geometry: Rectangular

      Span(in): 500
      Rise(in): 2
      Invert(ft): 14.88
      Control Elev(ft): 14.88
      TABLE
      Bottom Clip(in): 0
      Top Clip(in): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-A120W1      From Node: N-A120
Group: RR           To Node: N-A110
Count: 1

Type: Fread      Flow: Both      Geometry: Rectangular

      Span(in): 1000
      Rise(in): 4
      Invert(ft): 12.23
      Control Elev(ft): 12.23
      TABLE
      Bottom Clip(in): 0
      Top Clip(in): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-A140W1      From Node: N-A140
Group: RR           To Node: N-A130
Count: 1

Type: Fread      Flow: Both      Geometry: Rectangular

      Span(in): 500
      Rise(in): 4
      Invert(ft): 12.16
      Control Elev(ft): 12.16
      TABLE
      Bottom Clip(in): 0
      Top Clip(in): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C010W1      From Node: N-C010
Group: SM1          To Node: N-B210
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 100
      Left Side Slope(h/v): 50
      Right Side Slope(h/v): 50
      Invert(ft): 12.4
      Control Elev(ft): 12.4
      StructOpeningDim(ft): 9999
      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C050W1      From Node: N-C050
Group: SM1          To Node: N-C060
Count: 1

Type: Fread      Flow: Both      Geometry: Irregular

      XSec Name: X-C050-1

      Invert(ft): 8.9
      Control Elev(ft): 8.9
      StructOpeningDim(ft): 9999
      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0

```

```

Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

Portion of road that drains to Wolk Dr

-----Class: Weir-----
Name: L-C050W2          From Node: N-C050
Group: SM1              To Node: N-C040
Count: 1

Type: Fread    Flow: Both    Geometry: Irregular

XSec Name: X-C050-2

Invert(ft): 8.9
Control Elev(ft): 8.9
StructOpeningDim(ft): 99999    TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

Portion of road that drains to golf course

-----Class: Weir-----
Name: L-C080W1          From Node: N-C080
Group: SM1              To Node: N-C070
Count: 1

Type: Fread    Flow: Both    Geometry: Irregular

XSec Name: X-C080-1

Invert(ft): 11.39
Control Elev(ft): 11.39
StructOpeningDim(ft): 99999    TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C100W1          From Node: N-C100
Group: SM1              To Node: N-C090
Count: 1

Type: Fread    Flow: Both    Geometry: Irregular

XSec Name: X-C100-1

Invert(ft): 12.35
Control Elev(ft): 12.35
StructOpeningDim(ft): 99999    TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

BeesFerry

-----Class: Weir-----
Name: L-C110W1          From Node: N-C110
Group: SM1              To Node: N-C100
Count: 1

Type: Mavis    Flow: Both    Geometry: Trapezoidal

Bottom Width(ft): 10
Left Side Slope(h/v): 0
Right Side Slope(h/v): 0
Invert(ft): 7.48
Control Elev(ft): 7.48
StructOpeningDim(ft): 9999    TABLE
Bottom Clip(ft): 2
Top Clip(ft): 0
Weir Discharge Coef: 3.3
Orifice Discharge Coef: 0.6

2 FT Flashboard in weir

-----Class: Weir-----
Name: L-C140W1          From Node: N-C140
Group: SM1              To Node: N-C130
Count: 1

Type: Fread    Flow: Both    Geometry: Trapezoidal

Bottom Width(ft): 10
Left Side Slope(h/v): 40

```

```

Right Side Slope(h/v): 40
    Invert(ft): 12
    Control Elev(ft): 12
    StructOpeningDim(ft): 9999      TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3
    Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C170W1      From Node: N-C170
Group: SM1          To Node: N-C160
Count: 1

Type: Fread      Flow: Both      Geometry: Irregular

    XSec Name: X-C170-1

    Invert(ft): 11.88
    Control Elev(ft): 11.88
    StructOpeningDim(ft): 99999    TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3
    Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C190W1      From Node: N-C190
Group: SM1          To Node: N-B200
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 100
    Left Side Slope(h/v): 50
    Right Side Slope(h/v): 50
    Invert(ft): 14.5
    Control Elev(ft): 14.5
    StructOpeningDim(ft): 9999    TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3
    Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C210W1      From Node: N-C210
Group: SM1          To Node: N-C200
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 50
    Left Side Slope(h/v): 50
    Right Side Slope(h/v): 50
    Invert(ft): 9.7
    Control Elev(ft): 9.7
    StructOpeningDim(ft): 9999    TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3
    Orifice Discharge Coef: 0.6

    Cartpath

-----Class: Weir-----
Name: L-C230W1      From Node: N-C230
Group: SM1          To Node: N-C220
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

    Bottom Width(ft): 200
    Left Side Slope(h/v): 50
    Right Side Slope(h/v): 50
    Invert(ft): 10.18
    Control Elev(ft): 10.18
    StructOpeningDim(ft): 9999    TABLE
    Bottom Clip(ft): 0
    Top Clip(ft): 0
    Weir Discharge Coef: 3
    Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-C240W1      From Node: N-C240
Group: SM1          To Node: N-C230

```

```

Count: 1

Type: Fread      Flow: Both      Geometry: Irregular

      XSec Name: X-C240-1

      Invert(ft): 10.91
      Control Elev(ft): 10.91
      StructOpeningDim(ft): 99999      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
      Name: L-C260W1      From Node: N-C260
      Group: SM1      To Node: N-C250
      Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 26
      Left Side Slope(h/v): 0
      Right Side Slope(h/v): 0
      Invert(ft): 7.85
      Control Elev(ft): 7.85
      StructOpeningDim(ft): 2      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
      Name: L-C260W2      From Node: N-C260
      Group: SM1      To Node: N-C250
      Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 30
      Left Side Slope(h/v): 50
      Right Side Slope(h/v): 50
      Invert(ft): 11
      Control Elev(ft): 11
      StructOpeningDim(ft): 9999      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
      Name: L-C270W1      From Node: N-C270
      Group: SM1      To Node: N-B190
      Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 50
      Left Side Slope(h/v): 50
      Right Side Slope(h/v): 50
      Invert(ft): 14
      Control Elev(ft): 14
      StructOpeningDim(ft): 9999      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3
      Orifice Discharge Coef: 0.6

-----Class: Weir-----
      Name: L-D020W1      From Node: N-D020
      Group: SM2      To Node: N-D010
      Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 30
      Left Side Slope(h/v): 50
      Right Side Slope(h/v): 50
      Invert(ft): 9
      Control Elev(ft): 9
      StructOpeningDim(ft): 99999      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 2.8
      Orifice Discharge Coef: 0.6

```

-----Class: Weir-----
Name: L-D030W1 From Node: N-D030
Group: SM2 To Node: N-D020
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 13
Left Side Slope(h/v): 1.5
Right Side Slope(h/v): 1.5
Invert(ft): 5.6
Control Elev(ft): 5.6
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D030W2 From Node: N-D030
Group: SM2 To Node: N-D120
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 9
Left Side Slope(h/v): 2
Right Side Slope(h/v): 2
Invert(ft): 7.3
Control Elev(ft): 7.3
StructOpeningDim(ft): 999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 2.8
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D040W1 From Node: N-D040
Group: SM2 To Node: N-D030
Count: 1

Type: Fread Flow: Both Geometry: Irregular

XSec Name: X-D040-1

Invert(ft): 9.11
Control Elev(ft): 9.11
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D050W1 From Node: N-D050
Group: SM2 To Node: N-D040
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 20
Left Side Slope(h/v): 50
Right Side Slope(h/v): 50
Invert(ft): 10
Control Elev(ft): 10
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 2.8
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D060W1 From Node: N-D060
Group: SM2 To Node: N-D050
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 50
Left Side Slope(h/v): 50
Right Side Slope(h/v): 50
Invert(ft): 16

Control Elev(ft): 16
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D080W1 From Node: N-D080
Group: SM2 To Node: N-D070
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 8
Left Side Slope(h/v): 0
Right Side Slope(h/v): 0
Invert(ft): 14.2
Control Elev(ft): 14.2
StructOpeningDim(ft): 999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D080W2 From Node: N-D080
Group: SM2 To Node: N-D070
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 50
Left Side Slope(h/v): 100
Right Side Slope(h/v): 100
Invert(ft): 15.2
Control Elev(ft): 15.2
StructOpeningDim(ft): 999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 2.8
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D090W1 From Node: N-D090
Group: SM2 To Node: N-D030
Count: 1

Type: Fread Flow: Both Geometry: Irregular

XSec Name: X-D090-1

Invert(ft): 10.49
Control Elev(ft): 10.49
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D110W1 From Node: N-D110
Group: SM2 To Node: N-D100
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 5
Left Side Slope(h/v): 2.5
Right Side Slope(h/v): 2.5
Invert(ft): 9
Control Elev(ft): 9
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D160W1 From Node: N-D160
Group: SM2 To Node: N-D150
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 10
Left Side Slope(h/v): 0
Right Side Slope(h/v): 0
Invert(ft): 10.6
Control Elev(ft): 10.6
StructOpeningDim(ft): 99999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3.2
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D160W2 From Node: N-D160
Group: SM2 To Node: N-D150
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 20
Left Side Slope(h/v): 50
Right Side Slope(h/v): 50
Invert(ft): 12.1
Control Elev(ft): 12.1
StructOpeningDim(ft): 99999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D170W1 From Node: N-D170
Group: SM2 To Node: N-D160
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 30
Left Side Slope(h/v): 100
Right Side Slope(h/v): 100
Invert(ft): 10.8
Control Elev(ft): 10.8
StructOpeningDim(ft): 9999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-D190W1 From Node: N-D190
Group: SM2 To Node: N-D110
Count: 1

Type: Fread Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 30
Left Side Slope(h/v): 50
Right Side Slope(h/v): 50
Invert(ft): 11.5
Control Elev(ft): 11.5
StructOpeningDim(ft): 999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 2.8
Orifice Discharge Coef: 0.6

-----Class: Weir-----
Name: L-E020W1 From Node: N-E020
Group: VG To Node: N-E010
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft): 10
Left Side Slope(h/v): 4
Right Side Slope(h/v): 4
Invert(ft): 9.2
Control Elev(ft): 9.2
StructOpeningDim(ft): 1.5 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 3.2
Orifice Discharge Coef: 0.6

PS R024 MODIFIED

```

-----Class: Weir-----
Name: L-E020W2          From Node: N-E020
Group: VG              To Node: N-E010
Count: 1

Type: Mavis      Flow: Both      Geometry: Rectangular

      Span(in): 14
      Rise(in): 14
      Invert(ft): 8
      Control Elev(ft): 8
      TABLE
      Bottom Clip(in): 0
      Top Clip(in): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

      PS R024A      MODIFIED

-----Class: Weir-----
Name: L-E020W3          From Node: N-E020
Group: VG              To Node: N-E010
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 30
      Left Side Slope(h/v): 0
      Right Side Slope(h/v): 0
      Invert(ft): 10.7
      Control Elev(ft): 10.7
      StructOpeningDim(ft): 99999      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

      OVERTOPPING

-----Class: Weir-----
Name: L-E200W1          From Node: N-E200
Group: VG              To Node: N-E010
Count: 1

Type: Mavis      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 1
      Left Side Slope(h/v): 3
      Right Side Slope(h/v): 3
      Invert(ft): 8
      Control Elev(ft): 8
      StructOpeningDim(ft): 3      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

      PS R017A

-----Class: Weir-----
Name: L-E200W2          From Node: N-E200
Group: VG              To Node: N-E010
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 30
      Left Side Slope(h/v): 0
      Right Side Slope(h/v): 0
      Invert(ft): 11
      Control Elev(ft): 11
      StructOpeningDim(ft): 99999      TABLE
      Bottom Clip(ft): 0
      Top Clip(ft): 0
      Weir Discharge Coef: 3.2
      Orifice Discharge Coef: 0.6

      OVERTOPPING

-----Class: Weir-----
Name: L-E270W1          From Node: N-E270
Group: VG              To Node: N-E260
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

      Bottom Width(ft): 3
      Left Side Slope(h/v): 1.5
      Right Side Slope(h/v): 1.5
      Invert(ft): 10.3
      Control Elev(ft): 10.3
      StructOpeningDim(ft): 1.5      TABLE

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        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3.2
        Orifice Discharge Coef: 0.6

OVERTOPPING #1
-----Class: Weir-----
Name: L-E270W2      From Node: N-E270
Group: VG           To Node: N-E260
Count: 1

Type: Fread      Flow: Both      Geometry: Trapezoidal

        Bottom Width(ft): 30
        Left Side Slope(h/v): 0
        Right Side Slope(h/v): 0
                Invert(ft): 11.8
        Control Elev(ft): 11.8
        StructOpeningDim(ft): 99999      TABLE
        Bottom Clip(ft): 0
        Top Clip(ft): 0
        Weir Discharge Coef: 3.2
        Orifice Discharge Coef: 0.6

OVERTOPPING #2
-----Class: Drop Structure-----
Name: L-G110D1      From Node: N-G110      Length(ft): 381
Group: BL           To Node: N-G100      Count: 1

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular      Downstream Geometry: Circular
                UPSTREAM      DOWNSTREAM
        Span(in): 36      36
        Rise(in): 36      36
        Invert(ft): 9      8.5
        Manning's N: 0.012      0.012
        Top Clip(in): 0      0
        Bottom Clip(in): 0      0

        Entrance Loss Coef: 0      Flow: Both
        Exit Loss Coef: 0      Equation: Aver Conveyance

        Upstream FHWA Inlet Edge Description:
        Circular Concrete: Groove end projecting      1      3
        Downstream FHWA Inlet Edge Description:
        Circular Concrete: Groove end projecting      1      3

        PS L-D2
*** Weir 1 of 1 for Drop Structure L-G110D1 ***      [TABLE]
Count: 1      Bottom Clip(in): 0
Type: Horiz      Top Clip(in): 0
Flow: Both      Weir Discharge Coef: 3.2
Geometry: Rectangular      Orifice Discharge Coef: 0.6

        Span(in): 36      Invert(ft): 11
        Rise(in): 100      Control Elev(ft): 11

-----Class: Drop Structure-----
Name: L-B040D1      From Node: N-B040      Length(ft): 40
Group: HH           To Node: N-B030      Count: 1

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular      Downstream Geometry: Circular
                UPSTREAM      DOWNSTREAM
        Span(in): 30      30
        Rise(in): 30      30
        Invert(ft): 2.1      2.1
        Manning's N: 0.025      0.025
        Top Clip(in): 0      0
        Bottom Clip(in): 0      0

        Entrance Loss Coef: 0.5      Flow: Both
        Exit Loss Coef: 1      Equation: Aver Conveyance

        Upstream FHWA Inlet Edge Description:
        Circular CMP: Headwall      2      1
        Downstream FHWA Inlet Edge Description:
        Circular CMP: Projecting      2      3

        *** Weir 1 of 1 for Drop Structure L-B040D1 ***      [TABLE]
Count: 1      Bottom Clip(in): 15
Type: Horiz      Top Clip(in): 0
Flow: Both      Weir Discharge Coef: 3.3
Geometry: Circular      Orifice Discharge Coef: 0.6

        Span(in): 30      Invert(ft): 8
        Rise(in): 30      Control Elev(ft): 8

-----Class: Drop Structure-----

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Name: L-B100D1      From Node: N-B100      Length(ft): 70
Group: HH           To Node: N-B090        Count: 1

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular          Downstream Geometry: Circular
                                UPSTREAM      DOWNSTREAM
                                Span(in): 36      36
                                Rise(in): 36      36
                                Invert(ft): 3.51    2.87
                                Manning's N: 0.012   0.012
                                Top Clip(in): 0      0
                                Bottom Clip(in): 0    0

Entrance Loss Coef: 0.2              Flow: Both
Exit Loss Coef: 1                   Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall      1      1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting          1      3

*** Weir 1 of 2 for Drop Structure L-B100D1 ***      [TABLE]
Count: 1                      Bottom Clip(in): 0
Type: Horiz                    Top Clip(in): 0
Flow: Both                     Weir Discharge Coef: 3.3
Geometry: Rectangular          Orifice Discharge Coef: 0.6

                                Span(in): 48              Invert(ft): 6.5
                                Rise(in): 42              Control Elev(ft): 6.5

*** Weir 2 of 2 for Drop Structure L-B100D1 ***      [TABLE]
Count: 1                      Bottom Clip(in): 0
Type: Mavis                    Top Clip(in): 0
Flow: Both                     Weir Discharge Coef: 3.3
Geometry: Rectangular          Orifice Discharge Coef: 0.6

                                Span(in): 32              Invert(ft): 6.25
                                Rise(in): 3               Control Elev(ft): 6.25

-----Class: Drop Structure-----
Name: L-B140D1      From Node: N-B140      Length(ft): 65
Group: HH           To Node: N-B130        Count: 3

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular          Downstream Geometry: Circular
                                UPSTREAM      DOWNSTREAM
                                Span(in): 36      36
                                Rise(in): 36      36
                                Invert(ft): 1.5    2.3
                                Manning's N: 0.012   0.012
                                Top Clip(in): 0      0
                                Bottom Clip(in): 0    0

Entrance Loss Coef: 0.2              Flow: Both
Exit Loss Coef: 1                   Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall      1      1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting          1      3

*** Weir 1 of 1 for Drop Structure L-B140D1 ***      [TABLE]
Count: 1                      Bottom Clip(in): 0
Type: Mavis                    Top Clip(in): 0
Flow: Both                     Weir Discharge Coef: 3.3
Geometry: Rectangular          Orifice Discharge Coef: 0.6

                                Span(in): 178             Invert(ft): 4
                                Rise(in): 1000            Control Elev(ft): 4

-----Class: Drop Structure-----
Name: L-B230D1      From Node: N-B230      Length(ft): 40
Group: HH           To Node: N-B220        Count: 1

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular          Downstream Geometry: Circular
                                UPSTREAM      DOWNSTREAM
                                Span(in): 30      30
                                Rise(in): 30      30
                                Invert(ft): 4.7    4.6
                                Manning's N: 0.025   0.025
                                Top Clip(in): 0      0
                                Bottom Clip(in): 0    0

Entrance Loss Coef: 0              Flow: Both
Exit Loss Coef: 0                 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular CMP: Headwall              2      1

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Downstream FHWA Inlet Edge Description:
Circular CMP: Projecting 2 3

*** Weir 1 of 1 for Drop Structure L-B230D1 *** [TABLE]
Count: 1 Bottom Clip(in): 24
Type: Horiz Top Clip(in): 0
Flow: Both Weir Discharge Coef: 3.3
Geometry: Circular Orifice Discharge Coef: 0.6

Span(in): 48 Invert(ft): 9
Rise(in): 48 Control Elev(ft): 9

-----Class: Drop Structure-----
Name: L-F010D1 From Node: N-F010 Length(ft): 150
Group: MC To Node: N-B160 Count: 2

Outlet Cntrl Spec: Use dc or tw Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular Downstream Geometry: Circular

UPSTREAM DOWNSTREAM

Span(in): 42 42
Rise(in): 42 42
Invert(ft): 3.5 3
Manning's N: 0.012 0.012
Top Clip(in): 0 0
Bottom Clip(in): 0 0

Entrance Loss Coef: 0.5 Flow: Both
Exit Loss Coef: 0 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2
Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

PS DS-BB1

*** Weir 1 of 2 for Drop Structure L-F010D1 *** [TABLE]
Count: 1 Bottom Clip(in): 0
Type: Horiz Top Clip(in): 0
Flow: Both Weir Discharge Coef: 3.2
Geometry: Rectangular Orifice Discharge Coef: 0.6

Span(in): 108 Invert(ft): 12.5
Rise(in): 48 Control Elev(ft): 12.5

*** Weir 2 of 2 for Drop Structure L-F010D1 *** [TABLE]
Count: 1 Bottom Clip(ft): 0
Type: Horiz Top Clip(ft): 0
Flow: Both Weir Discharge Coef: 3.2
Geometry: Irregular Orifice Discharge Coef: 0.6

Cross Section: X-F010-1 Control Elev(ft): 7
Invert(ft): 7 StructOpeningDim(ft): 5.5

-----Class: Drop Structure-----
Name: L-E040D1 From Node: N-E040 Length(ft): 70
Group: VG To Node: N-E020 Count: 2

Outlet Cntrl Spec: Use dc or tw Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular Downstream Geometry: Circular

UPSTREAM DOWNSTREAM

Span(in): 54 54
Rise(in): 54 54
Invert(ft): 6 5.15
Manning's N: 0.013 0.013
Top Clip(in): 0 0
Bottom Clip(in): 0 0

Entrance Loss Coef: 0 Flow: Both
Exit Loss Coef: 0 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

PS R022

*** Weir 1 of 1 for Drop Structure L-E040D1 *** [TABLE]
Count: 1 Bottom Clip(in): 0
Type: Horiz Top Clip(in): 0
Flow: Both Weir Discharge Coef: 3.2
Geometry: Rectangular Orifice Discharge Coef: 0.6

Span(in): 96 Invert(ft): 9
Rise(in): 36 Control Elev(ft): 9

-----Class: Drop Structure-----
Name: L-E070D1 From Node: N-E070 Length(ft): 462
Group: VG To Node: N-E040 Count: 2

```

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular          Downstream Geometry: Circular
                                UPSTREAM      DOWNSTREAM
                                Span(in): 48      48
                                Rise(in): 48      48
                                Invert(ft): 8      7
                                Manning's N: 0.013  0.013
                                Top Clip(in): 0      0
                                Bottom Clip(in): 0    0

Entrance Loss Coef: 0.5              Flow: Both
Exit Loss Coef: 0.2                 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall      1      1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall      1      1

PS R019
*** Weir 1 of 1 for Drop Structure L-E070D1 ***      [TABLE]
Count: 1                      Bottom Clip(ft): 0
Type: Horiz                    Top Clip(ft): 0
Flow: Both                     Weir Discharge Coef: 3.2
Geometry: Trapezoidal          Orifice Discharge Coef: 0.6

Bottom Width(ft): 1              Invert(ft): 10
Left Side Slope(h/v): 1          Control Elev(ft): 10
Right Side Slope(h/v): 1         StructOpeningDim(ft): 9999

-----Class: Drop Structure-----
Name: L-E220D1      From Node: N-E220      Length(ft): 35
Group: VG           To Node: N-E210      Count: 2

Outlet Cntrl Spec: Use dc or tw      Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular          Downstream Geometry: Circular
                                UPSTREAM      DOWNSTREAM
                                Span(in): 54      54
                                Rise(in): 54      54
                                Invert(ft): 6      4
                                Manning's N: 0.013  0.013
                                Top Clip(in): 0      0
                                Bottom Clip(in): 0    0

Entrance Loss Coef: 0.5              Flow: Both
Exit Loss Coef: 0.2                 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall      1      1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting      1      3

PS R016
*** Weir 1 of 1 for Drop Structure L-E220D1 ***      [TABLE]
Count: 1                      Bottom Clip(in): 0
Type: Horiz                    Top Clip(in): 0
Flow: Both                     Weir Discharge Coef: 3.2
Geometry: Rectangular          Orifice Discharge Coef: 0.6

Span(in): 96                      Invert(ft): 10.5
Rise(in): 54                     Control Elev(ft): 10.5

-----Class: Bridge-----
Name: L-B020B1      From Node: N-B020      Flow: Both
Group: HH           To Node: N-B010      Run WSPRO: No

XSEC TYPE      NAME      INV(ft)      STAT(ft)      SKEW(deg)      EXPAN.      CONTRAC.
Exit            X-B010-1  1.5        0            0            0.5        0
Full Valley     X-B010-1  1.5        50           0            0.5        0
Approach        X-B080-1  1.5        130          0            0.5        0
Roadway         X-B020-2  9.9        50           0            0.5        0

Road Surface Material: Paved
Road Embankment Top Width(ft): 30
Road Unsubmerged Weir Q Coef: 0

Comment: BEES FERRY

RATING CURVE CONTROL
TW(ft)      QMin(cfs)      QMax(cfs)      QInc(cfs)
2           0            400           50
2.5         0            400           50
3.5         0            400           50
4           50           450           50
4.5         50           500           50
5           50           600           50
5.5         50           650           50
6           50           650           50
6.5         50           700           50
7           50           750           50
7.5         50           800           50
8           50           850           50
8.3         50           1200          50
9           50           1200          50

```

10 100 1300 100
 11 100 1300 100
 *** Opening 1 of 1 for Bridge L-B020B1 ***

Opening Type: Slp Embank/Slp Spillthrough Abut

XSec Name: X-B020-1	Spur Dike Type: Elliptical
Invert(ft): 1.5	XSec Name:
Station(ft): 50	Invert(ft): 0
Skew(deg): 0	Station(ft): 0
Expan: 0.5	Skew(deg): 0
Contrac: 0	Expan: 0.5
Total Width(ft): 30	Contrac: 0
Orifice Dis Coef: 0.6	
Low Chord Elev(ft): 8.3	
Embankment Sd Slp(h/v): 2	
Embankment Elev(ft): 9.9	

PIER DATA

Elev(ft)	Width(ft)
2	2
8.3	2

*** WSPRO Output for Bridge L-B020B1 ***

TW(ft)	HW(ft)	Q(cfs)	TW(ft)	HW(ft)	Q(cfs)
2	2	0	7	8.2234	500
2	4.2257	50	7	8.4401	550
2	5.0626	100	7	8.684	600
2	5.7296	150	7	8.9527	650
2	6.2679	200	7	9.2467	700
2	6.7844	250	7	9.5676	750
2	7.2892	300	7.5	7.5092	50
2	7.7887	350	7.5	7.5369	100
2	8.1278	400	7.5	7.583	150
2.5	2.5	0	7.5	7.6474	200
2.5	4.2255	50	7.5	7.7297	250
2.5	5.062	100	7.5	7.8291	300
2.5	5.731	150	7.5	7.9447	350
2.5	6.2678	200	7.5	8.0716	400
2.5	6.7844	250	7.5	8.2135	450
2.5	7.2892	300	7.5	8.3684	500
2.5	7.7887	350	7.5	8.5377	550
2.5	8.1278	400	7.5	8.7234	600
3.5	3.5	0	7.5	8.9256	650
3.5	3.8996	50	7.5	9.1441	700
3.5	5.0615	100	7.5	9.3798	750
3.5	5.7301	150	7.5	9.6342	800
3.5	6.2677	200	8	8.0071	50
3.5	6.7841	250	8	8.0282	100
3.5	7.289	300	8	8.0632	150
3.5	7.7886	350	8	8.1115	200
3.5	8.1363	400	8	8.1727	250
4	4.171	50	8	8.2463	300
4	4.6951	100	8	8.3319	350
4	5.731	150	8	8.4303	400
4	6.2684	200	8	8.5399	450
4	6.7837	250	8	8.6612	500
4	7.2896	300	8	8.7947	550
4	7.7883	350	8	8.9397	600
4	8.1286	400	8	9.0965	650
4	8.4342	450	8	9.2653	700
4.5	4.5847	50	8	9.4465	750
4.5	4.8419	100	8	9.6406	800
4.5	5.3103	150	8	9.8485	850
4.5	6.0864	200	8.3	8.3049	50
4.5	6.7833	250	8.3	8.3198	100
4.5	7.2896	300	8.3	8.3428	150
4.5	7.7861	350	8.3	8.379	200
4.5	8.1302	400	8.3	8.4186	250
4.5	8.4315	450	8.3	8.4713	300
4.5	8.7114	500	8.3	8.524	350
5	5.0485	50	8.3	8.5899	400
5	5.1963	100	8.3	8.6689	450
5	5.4518	150	8.3	8.748	500
5	5.8341	200	8.3	8.8271	550
5	6.388	250	8.3	8.9324	600
5	7.2866	300	8.3	9.0378	650
5	7.7853	350	8.3	9.1431	700
5	8.1351	400	8.3	9.2486	750
5	8.4287	450	8.3	9.354	800
5	8.7101	500	8.3	9.4595	850
5	9.0119	550	8.3	9.5649	900
5	9.2869	600	8.3	9.7227	950
5.5	5.5305	50	8.3	9.8804	1000
5.5	5.6228	100	8.3	9.986	1050
5.5	5.7794	150	8.3	10.0915	1100
5.5	6.0067	200	8.3	10.1448	1150
5.5	6.3152	250	8.3	10.1981	1200
5.5	6.7261	300	9	9.0041	50
5.5	7.3522	350	9	9.0162	100
5.5	8.1317	400	9	9.0354	150
5.5	8.4225	450	9	9.0648	200
5.5	8.708	500	9	9.1002	250

5.5	9.01	550	9	9.1414	300
5.5	9.2854	600	9	9.1886	350
5.5	9.5704	650	9	9.2475	400
6	6.022	50	9	9.3065	450
6	6.088	100	9	9.3772	500
6	6.1982	150	9	9.4714	550
6	6.3528	200	9	9.5421	600
6	6.553	250	9	9.6129	650
6	6.8025	300	9	9.754	700
6	7.1315	350	9	9.8483	750
6	7.5864	400	9	9.9426	800
6	8.0139	450	9	10.0369	850
6	8.4554	500	9	10.0844	900
6	9.0115	550	9	10.1319	950
6	9.2841	600	9	10.1794	1000
6	9.5695	650	9	10.227	1050
6.5	6.5163	50	9	10.2512	1100
6.5	6.5652	100	9	10.2988	1150
6.5	6.6464	150	9	10.3231	1200
6.5	6.7595	200	10	10.0122	100
6.5	6.9045	250	10	10.049	200
6.5	7.0939	300	10	10.098	300
6.5	7.3195	350	10	10.1568	400
6.5	7.6194	400	10	10.2059	500
6.5	7.8997	450	10	10.2649	600
6.5	8.1778	500	10	10.3141	700
6.5	8.4806	550	10	10.3634	800
6.5	8.8304	600	10	10.4127	900
6.5	9.2283	650	10	10.4524	1000
6.5	9.6808	700	10	10.4921	1100
7	7.0123	50	10	10.5318	1200
7	7.0494	100	10	10.5716	1300
7	7.1115	150	11	11.0001	700
7	7.199	200	11	11.0039	800
7	7.3119	250	11	11.0078	900
7	7.4495	300	11	11.0117	1000
7	7.6367	350	11	11.0176	1100
7	7.8218	400	11	11.0215	1200
7	8.0194	450	11	11.0254	1300

-----Class: Bridge-----

Name: L-A030B1 From Node: N-A030 Flow: Both
 Group: RR To Node: N-A020 Run WSPRO: No

XSEC TYPE	NAME	INV(ft)	STAT(ft)	SKEW(deg)	EXPAN.	CONTRAC.
Exit	X-A020-1	-4.2	0	0	0.5	0.3
Full Valley	X-A020-1	-4.2	100	0	0.5	0.3
Approach	X-A040-2	-4.2	230	0	0.5	0.3
Roadway	X-A030-2	6.6	100	0		

Road Surface Material: Paved
 Road Embankment Top Width(ft): 30
 Road Unsubmerged Weir Q Coef: 0

Comment: SC 61

RATING CURVE CONTROL			
TW(ft)	QMin(cfs)	QMax(cfs)	QInc(cfs)
-1.2	0	1600	200
0	0	1600	200
2	0	1600	200
3	0	1600	200
4	0	1600	200
5	0	1600	200
6	0	1600	200
7	200	1800	200
8	200	1800	200

*** Opening 1 of 1 for Bridge L-A030B1 ***

Opening Type: Slp Embank/Slp Spillthrough Abut

XSec Name: X-A030-1	Spur Dike Type: Elliptical
Invert(ft): -4.2	XSec Name:
Station(ft): 100	Invert(ft): 0
Skew(deg): 0	Station(ft): 0
Expan: 0.5	Skew(deg): 0
Contrac: 0	Expan: 0.5
Total Width(ft): 30	Contrac: 0
Orifice Dis Coef: 0.6	
Low Chord Elev(ft): 6.95	
Embankment Sd Slp(h/v): 2	
Embankment Elev(ft): 6.6	

PIER DATA	
Elev(ft)	Width(ft)
-4	3
7	3

*** WSPRO Output for Bridge L-A030B1 ***					
TW(ft)	HW(ft)	Q(cfs)	TW(ft)	HW(ft)	Q(cfs)
-1.2	-1.2	0	4	4.2203	600
-1.2	-0.7207	200	4	4.3671	800
-1.2	0.3909	400	4	4.5403	1000
-1.2	1.5279	600	4	4.7244	1200

```

-1.2      2.9767      800      4      4.9093      1400
-1.2      3.7814     1000      4      5.0985     1600
-1.2      4.5323     1200      5      5          0
-1.2      5.1741     1400      5      5.0127     200
-1.2      5.0792     1600      5      5.0499     400
0          0          0          5      5.1096     600
0          0.2021     200      5      5.1887     800
0          0.7619     400      5      5.284      1000
0          1.5501     600      5      5.3955     1200
0          2.9775     800      5      5.5174     1400
0          3.7814     1000      5      5.6484     1600
0          4.5323     1200      6      6          0
0          5.1741     1400      6      6.0066     200
0          5.0792     1600      6      6.0264     400
2          2          0          6      6.059      600
2          2.0688     200      6      6.1042     800
2          2.2726     400      6      6.1616     1000
2          2.9812     600      6      6.2305     1200
2          3.4455     800      6      6.3102     1400
2          3.9903     1000      6      6.3997     1600
2          4.5805     1200      7      7.0095     400
2          5.1628     1400      7      7.0225     600
2          5.0792     1600      7      7.0414     800
3          3          0          7      7.0655     1000
3          3.0851     200      7      7.0931     1200
3          3.3139     400      7      7.1243     1400
3          3.6064     600      7      7.1655     1600
3          3.9654     800      7      7.2069     1800
3          4.4019     1000      8      8.0014     800
3          4.8831     1200      8      8.0054     1000
3          5.3403     1400      8      8.0099     1200
3          5.0792     1600      8      8.0156     1400
4          4          0          8      8.0222     1600
4          4.0268     200      8      8.0288     1800
4          4.1032     400
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\2YR\2YR
Execution: Both
Header: Church Creek Watershed
Existing Conditions
$$DATE$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1
Time Step Optimizer: 0.1
Drop Structure Optimizer: 10
Sim Start Time(hrs): 0
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour: PInc(min):
0 60
9 30
12 5
16 1
20 5
24 15
48 30
96 60
Override Defaults: Yes
Storm Dur(hrs): 24
Rain Amount(in): 4.6
Rainfall File: SCSIII
To Hour: PInc(min):
9 15
20 5
24 15
48 60
-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\10YR\10YR
Execution: Both
Header: Church Creek Watershed
Existing Conditions
$$DATE$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1
Time Step Optimizer: 0.1
Drop Structure Optimizer: 10
Sim Start Time(hrs): 0
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour: PInc(min):
0 60
9 30
12 5
16 1
20 5
24 15
48 30
96 60
Override Defaults: Yes
Storm Dur(hrs): 24
Rain Amount(in): 6.8
Rainfall File: SCSIII
To Hour: PInc(min):
9 15
20 5
24 15
48 60
-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\25YR\25YR
Execution: Both

```

```

Header: Church Creek Watershed
Existing Conditions
$$$$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1
Time Step Optimizer: 0.1
Drop Structure Optimizer: 10
Sim Start Time(hrs): 0
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour: PInc(min):
0 60
9 30
12 5
16 1
20 5
24 15
48 30
96 60
Override Defaults: Yes
Storm Dur(hrs): 24
Rain Amount(in): 7.8
Rainfall File: SCSIII

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\50YR\50YR
Execution: Both
Header: Church Creek Watershed
Existing Conditions
$$$$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1
Time Step Optimizer: 0.1
Drop Structure Optimizer: 10
Sim Start Time(hrs): 0
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour: PInc(min):
0 60
9 30
12 5
16 1
20 5
24 15
48 30
96 60
Override Defaults: Yes
Storm Dur(hrs): 24
Rain Amount(in): 8.8
Rainfall File: SCSIII

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\100YR\100Y
Execution: Both
Header: Church Creek Watershed
Existing Conditions
$$$$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1
Time Step Optimizer: 0.1
Drop Structure Optimizer: 10
Sim Start Time(hrs): 0
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour: PInc(min):
0 60
9 30
12 5
16 1
20 5
24 15
48 30
96 60
Override Defaults: Yes
Storm Dur(hrs): 24
Rain Amount(in): 10
Rainfall File: SCSIII

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\500YR\500Y
Execution: Both
Header: Church Creek Watershed
Existing Conditions
$$$$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1
Time Step Optimizer: 0.1
Drop Structure Optimizer: 10
Sim Start Time(hrs): 0
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour: PInc(min):
0 60
9 30
12 5
16 1
20 5
24 15
48 30
96 60
Override Defaults: Yes
Storm Dur(hrs): 24
Rain Amount(in): 11.5
Rainfall File: SCSIII

```

```

Min Calc Time(sec): 1
Max Calc Time(sec): 30
  To Hour:  PInc(min):
    0        60
    9        30
   12         5
   16         1
   20         5
   24        15
   48        30
   96        60
  To Hour:  PInc(min):
    9        15
   20         5
   24        15
   48        60

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\21SEPT98\2
Execution: Both
Header: Church Creek Watershed
Storm Event on September 21, 1998
$$DATE$$

-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1 Override Defaults: Yes
Time Step Optimizer: 0.1 Storm Dur(hrs): 24
Drop Structure Optimizer: 10 Rain Amount(in): 10.52
Sim Start Time(hrs): 0 Rainfall File: 21SEPT98
Sim End Time(hrs): 60
Min Calc Time(sec): 1
Max Calc Time(sec): 30
  To Hour:  PInc(min):
    12        30
    20         5
    30         1
    36         5
    48        30
  To Hour:  PInc(min):
    12        15
    30         5
    48        15

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\16FEB98\16
Execution: Both
Header: Church Creek Watershed
Storm Event on February 16, 1998
$$DATE$$

-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1 Override Defaults: Yes
Time Step Optimizer: 0.1 Storm Dur(hrs): 48
Drop Structure Optimizer: 10 Rain Amount(in): 5.92
Sim Start Time(hrs): 0 Rainfall File: 16FEB98
Sim End Time(hrs): 60
Min Calc Time(sec): 1
Max Calc Time(sec): 30
  To Hour:  PInc(min):
    12        30
    30         5
    32         1
    48        30
  To Hour:  PInc(min):
    12        15
    32         5
    48        15

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\27SEPT99\2
Execution: Both
Header: Church Creek Watershed
Storm Event on September 27, 1999
$$DATE$$

-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1 Override Defaults: Yes
Time Step Optimizer: 0.1 Storm Dur(hrs): 72
Drop Structure Optimizer: 10 Rain Amount(in): 5.98
Sim Start Time(hrs): 0 Rainfall File: 27SEPT99
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
  To Hour:  PInc(min):
    20        60
    48         5
    60        15
    65         5
    72        30
  To Hour:  PInc(min):
    20        15
    48         5
    60        15
    65         5
    72        15

-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\03OCT94\03
Execution: Both
Header: Church Creek Watershed
Storm Event on October 3, 1994

```

```

$$$$DATE$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1      Override Defaults: Yes
Time Step Optimizer: 0.1  Storm Dur(hrs): 72
Drop Structure Optimizer: 10  Rain Amount(in): 5.91
Sim Start Time(hrs): 0      Rainfall File: 03OCT94
Sim End Time(hrs): 72
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour:  PInc(min):      To Hour:  PInc(min):
8          60              8          60
50         5               50         5
72         15              72         15
-----GROUP SELECTIONS-----
- BASE [ NO RUN ] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]
-----Class: Simulation-----
C:\ICPR2\PROJECTS\CHURCH\EXIST\27JULY01\2
Execution: Both
Header: Church Creek Watershed
Storm Event on July 27, 2001
$$$$DATE$$
-----HYDRAULICS-----HYDROLOGY-----
Max Delta Z (ft): 0.005
Delta Z Factor: 0.1      Override Defaults: Yes
Time Step Optimizer: 0.1  Storm Dur(hrs): 32
Drop Structure Optimizer: 10  Rain Amount(in): 4.67
Sim Start Time(hrs): 0      Rainfall File: 27JULY01
Sim End Time(hrs): 32
Min Calc Time(sec): 1
Max Calc Time(sec): 30
To Hour:  PInc(min):      To Hour:  PInc(min):
0          5               0          5
15         5               15         5
32         15              32         15
-----GROUP SELECTIONS-----
+ BASE [09/17/01] + RR [09/17/01] + HH [09/17/01]
+ SM1 [09/17/01] + SM2 [09/17/01] + VG [09/17/01]
+ MC [09/17/01] + BL [09/17/01]

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Church Creek Stormwater Master Plan

Summary Report (Volume 1)

December 2001

Woolpert LLP
Charlotte, North Carolina
Job No. 58375

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1-4. Floodplain Boundaries

1. EXECUTIVE SUMMARY

Background and Scope	The City of Charleston decided to develop a mater plan for the Church Creek watershed. This effort was initiated through homeowner complaints of reoccurring flooding within the basin. The Master Plan was to address existing flooding problems, review current detention policies and recommend any modification to the detention policy required to eliminate future impacts.						
Technical Approach	Hydrologic and hydraulic analyses were accomplished using the ICPR software program. Data for the model came from a variety of sources including current soils maps, topographic maps, drainage system maps, and a field reconnaissance of the basin. Hydraulic analyses of the natural stream system were based on DTM cross-sections and field surveys.						
Existing Conditions	The existing landuse conditions within the watershed, as of December 2000, were used for the analysis of existing flooding conditions. Areas of known flooding were evaluated such as the Shadowood and Hickory Farms neighborhoods. Existing conditions were derived from mapping and field evaluations. The existing conditions will also be used to update the FIS FEMA maps.						
Alternatives Analysis	Flood reduction alternatives were developed to help alleviate reoccurring flooding problems within the watershed. Cost analysis of alternatives were developed and compared to the benefits to determine a benefit to cost ratio. Three basic approaches to flood control were analyzed for the Church Creek Basin. <table><tr><td>1. Hydraulic Improvements:</td><td>This option included enlarging or adding additional culverts to provide more flow area to existing drainage structures.</td></tr><tr><td>2. Channel Improvements</td><td>This option included enlarging existing channel segments or creating new channel/pipe systems to divert the storm water to a new outfall location.</td></tr><tr><td>3. Property Buyout</td><td>This option includes purchasing homes that are within the floodplain and have experienced reoccurring flooding.</td></tr></table>	1. Hydraulic Improvements:	This option included enlarging or adding additional culverts to provide more flow area to existing drainage structures.	2. Channel Improvements	This option included enlarging existing channel segments or creating new channel/pipe systems to divert the storm water to a new outfall location.	3. Property Buyout	This option includes purchasing homes that are within the floodplain and have experienced reoccurring flooding.
1. Hydraulic Improvements:	This option included enlarging or adding additional culverts to provide more flow area to existing drainage structures.						
2. Channel Improvements	This option included enlarging existing channel segments or creating new channel/pipe systems to divert the storm water to a new outfall location.						
3. Property Buyout	This option includes purchasing homes that are within the floodplain and have experienced reoccurring flooding.						
Detention Analysis	Future landuse conditions were based on the proposed zoning for the City of Charleston and adjacent existing land use. Future development conditions were used to predict where flooding may occur with the current detention requirements in place. Several modified detention policies were applied to the future landuse to determine which requirements provided the best flood control.						

2. SCOPE

Project Scope

The *Church Creek Basin Analysis*, is a 2 Volume storm water management master plan. This is a detailed watershed analysis and master plan that addresses problems which are now occurring in the system and recommends improvements designed to remain stable as areas develop in accordance with current zoning. This report, which is Volume 1, summaries the key points of the analysis and is directed towards the City decision makers. Volume 2 is a technical report and attempts to be very concise. The technical report is directed to the technical professional familiar with the concepts and procedures of stormwater system analysis.

This report is divided into 6 sections as follows:

- | | |
|--------------------------|--|
| 1. Executive Summary: | Provides a managerial overview of the work. |
| 2. Scope: | Objectives. |
| 3. Technical Approach: | Names methodologies used in this study, describing basic assumptions and limitations. |
| 4. Existing Conditions: | Discusses hydrologic and hydraulic conditions as they currently exist. |
| 5. Alternatives Analysis | Describes alternatives to reduce existing flooding problems. |
| 6. Detention Analysis: | Describes detention policy modifications required to alleviate flooding impacts due to future development. |

3. TECHNICAL APPROACH

Project Team	The project team for this study included Flint Holbrook, project leader; Steve Godfrey, JP Johns and Gil Inouye. The project manager for the City was Laura Cabiness.
Hydrologic and Hydraulic Model	The ICPR computer model (version 2.2) was used to model the Church Creek Watershed. This model is a link / node computer model that creates rainfall runoff hydrographs and then routes these hydrographs through the watershed.
Hydrologic Data	Basic hydrologic inputs were developed in accordance with the USDA, SCS publication "Technical Release No. 55, Urban Hydrology for Small Watersheds," Second Edition, June 1986. The Church Creek drainage basin and sub-basins were delineated using GIS and verified during field visits performed in November 2000. Two engineers examined the basin, photographed significant hydraulic structures, mapped drainage boundaries, and recorded new land use changes. Existing land use information was determined using current City zoning, GIS data of the watershed and field observations of new development during a reconnaissance of the basin. The existing land use for this study consisted of December 2000 conditions. Soils were taken from the USDA, SCS "Soil Survey of Charleston County, South Carolina," March 1971. Topographic data was taken from GIS coverages provided by the City. Rainfall depths for the 2-, 10-, 25-, 50-, and 100-year frequency storm events was obtained from the South Carolina Stormwater Management and Sediment Control Handbook (1995). This data was used to develop the 500-year, 24-hour rainfall amount using Probability-Log paper. These 24-hour rainfall amounts were used with the SCS TYPE III rainfall distribution in the ICPR model to calculate rainfall runoff amounts.
Hydraulic Data	Hydraulic data was developed from field reconnaissance and detailed technical surveys. Information relative to Manning's "N" value determination was developed from field observations. Channel cross-sections and significant structure elevations were measured by a survey crew. Elevations of driveways, houses, and other potentially flooded structures were taken as needed. ICPR models from previous drainage studies for Village Green, Moss Creek and Bees Landing neighborhoods completed by Seamon, Whiteside & Associates were incorporated into the watershed model.
Storm Events	The 2-, 10-, 25-, 50-, 100-, and 500-year storm events were modeled. Historical rainfall data from three large storm events along with finish floor elevations of known flooded structures were used to calibrate/validate the model.

4. EXISTING CONDITIONS

General Description	The Church Creek Watershed is situated in the western part of Charleston in West Ashley with a total drainage area of 8.5 square miles (mi²) that drains southeast to the Ashley River. Elevations in the watershed range from 35 feet National Geodetic Vertical Datum (NGVD 1929), near the top of the watershed along Ashley River Road (SC-61), to -4 feet NGVD at the confluence with the Ashley River. Figure 1 generally indicates basin vicinity.
Land Use	The upper portion of the watershed primarily consists of undeveloped land while the middle and lower portions are primarily residential with some commercial development along the major roadways. Figure 3 shows existing land uses.
Hydrologic and Hydraulic Overview	The watershed is divided into seven major groups with a total of 89 sub-basins for the hydrologic analysis. Figure 2 shows sub-basin delineations. Hydrologic parameters developed for each sub-basin are shown in Table 4, and the soil type / landuse / curve number relationships are shown in Table 3. Hydrologic parameters from the previous study's ICPR models were used except where noted. 24-hour rainfall depths used in this analysis are listed in Table 1 and the SCS Type III rainfall distribution is listed in Table 2. Soils in the Church Creek Watershed are predominantly in the C and D Hydrologic Soil Groups (HSG) and consist primarily of the Yonges (Yo)(HSG=D), Edisto (Ed)(HSG=C) and Hockley (HoA)(HSG=C) soil types. There are also large areas classified as Mine Pits (Mp) that are considered to have a HSG classification of D for this study.
Current Flooding Concerns	Complaints of flooding have been noted in the three primary locations: 1. Shadowood Neighborhood 2. Townhouses on Two Loch Place 3. Hickory Farms Neighborhood Surveyors were dispatched to obtain accurate finished floor and foundation elevations for 44 houses and six townhouse buildings, containing a total of 32 units, that were determined to be at risk of flooding. This information enabled detailed analysis of flooding impacts on these structures. From this detailed analysis, the depths of flooding under existing conditions were determined for the 2-, 10-, 25-, 50-, 100-, and 500-year flood events. The model results showed that two houses have finish floor flooding in the 10-year storm event while 23 houses and 32 townhouses have finish floor flooding in the 100-year storm event. Table 5 provides an overall summary of the results of our analysis of 76 flood prone structures in the watershed. The floodplain boundaries are shown on Maps 1-4.

5. ALTERNATIVES ANALYSIS

General	Mitigation measures for the three problem areas were identified that would likely be technically feasible, cost effective, and accepted by the local community. These alternatives were focused only on modifications to the City's drainage infrastructure and included such options as culvert improvements, channel improvements, pump stations and temporary flood storage. Buyout of several of the more frequently flooded structures was also considered. The flood reduction alternatives discussed in this report have been developed for study purposes only. Actual implementation will require detailed design outside the scope of this work.
Benefit / Cost	Acceptable alternatives were conceptually designed and inserted into the ICPR model and re-run to determine the impacts on the flooding conditions. Construction cost estimates for each alternative were developed along with calculating the approximate expected annual damages to the impacted structures. This was accomplished by using elevation-frequency and depth-damage relations developed by the Federal Emergency Management Agency (FEMA) and a modification of FEMA's QuattroPro Spreadsheet program Benefit-Cost Analysis of Hazard Mitigation Projects (1996). The present worth value of the benefit is divided by the construction cost to determine the B/C ratio. This B/C analysis is intended to determine to a rough degree of accuracy, the ratio of dollar value of benefits to the dollar value of costs for a proposed project. Projects with higher B/C ratios likely justify a higher priority ranking than those with lower ratios.
Alternatives	A total of nine alternatives were investigated to address flooding in the three problem locations. The alternatives analyzed are as follows: • #1 - New pipes at primary crossing under Railroad • #2A - New pipes and ditch from Shadowood to Railroad • #2B - New pipes and ditch from Shadowood to Railroad and new culverts under the Railroad • #2C - New ditch along Bees Ferry Road to Railroad and new culverts under the Railroad • #3 - Part of Shadowmoss diverted to drain directly to the Ashley River • #4 - Drainage from Village Green and above diverted to drain directly to the Ashley River • #5 - Channel improvements from Dunwoody to Hickory Farms • #6 - Drainage above Village Green diverted to drain directly to the Ashley River • #7 - Buyout of frequently flooded structures in Shadowood The location of the alternatives are shown in Figures 5 through 13 and the Benefit / Cost results are listed in Table 6. There were three alternatives that had positive B/C ratio, however, all three of those alternatives (#2B, #2C, and #3) provide relief to the Shadowood neighborhood. Alternative #2C provides the largest B/C ratio and is the recommended alternative to reduce flooding in the Shadowood neighborhood. Alternative #5 is the only other alternative that has close to a positive B/C ratio. This alternative is to increase the available channel storage between Dunwoody and Hickory Farms. The recommended alternatives #2C and #5 have estimated costs of \$560,490 and \$303,825 respectively. The combined cost for both Alternative #2C and #5 is \$864,315.

6. DETENTION ANALYSIS

Current Regulations	The current detention regulations used by the City of Charleston are those required by the State of South Carolina. These regulations are listed in Section 72-307 and Appendix B of the South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities (September 1995). The major requirement as pertaining to storm water detention quantity control is that the post-development peak discharge rates shall not exceed pre-development discharge rates for the 2- and 10-year frequency 24-hour duration storm event. This requirement only controls the peak rate at which storm water can leave a site and does not consider the volume of water, or the timing of hydrographs at downstream locations. The ICPR model was used to determine what effects controlling only the peak rates might have on hydrograph timing and water surface elevations within the watershed. The model results showed that there is one additional house that might have finish floor flooding in the 10-, 25- and 100-year storm events while there are three additional houses that may have finish floor flooding in the 50-year storm event. Therefore, using the current detention requirement of only controlling peak discharge rates within the Church Creek Watershed does not protect downstream locations from increased flooding due to new development.
Detention Options	Due to the extent of the existing flooding and the potential for future flooding in the watershed, a change in detention policy and requirements may be a solution to the problem. There were six possible policy modification alternatives investigated. Descriptions of these policy option alternatives are listed below, while the pros and cons of each option are listed in Table 7. 1) No detention required, 2) Control peak flow rates only, 3) Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation, 4) Detain the excess 24-hour, X-year storm rainfall runoff until Z-time, 5) Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation and control peak discharge rates, and 6) Detain the excess 24-hour, X-year storm rainfall runoff until Z-time and control peak discharge rates. X-year = given storm frequency (i.e., 2-year, 10-year, 100-year) Z-time = given time (i.e., 24-hours)
Recommendation	The ICPR computer model was modified with different detention policy options and applied to future land use conditions for sub-basins located upstream of Bees Ferry Road to determine the resulting impacts on future flood elevations. Based on the results of the computer model simulations it is recommended that detention policy alternative number six be implemented for future development. This alternative was selected because it provides the most protection against flooding for the future land use conditions as shown in Table 8. This alternative gives developers the freedom to develop at any impervious density while maintaining no flooding impacts to downstream properties.

It is recommended that the time period for pre-volume release control (Z-time) be set to 24-hours. The peak stages at locations upstream of the railroad occurs between hours 21 to 25 depending on the location and remain near peak stage for approximately three to six hours. This time requirement should prevent any excess runoff volume due to new development from traveling downstream until after the peak stage at the railroad has begun to reside. It is also recommended that all storm events up to the 100-year storm event should be controlled for both excess volume and peak rates.

Therefore, the recommended detention standard shall require permanent storm water management systems, associated with new development, to be designed and constructed to maintain the post-development peak flow rates at or below the pre-development peak flow rates; and to detain the excess runoff volume difference between the pre-development and post-development conditions for the design storms having a duration of 24-hours and frequencies of 2-, 10-, 25-, 50- and 100-years for a time period of 24-hours. Tolerances for the 25-, and 50- year storm event peak flow rates will be plus or minus 10 percent. All other post-development peak flow rates must be at or below the pre-development peak flow rates. Detention facilities meeting these standards must be designed and constructed to contain the excess volume for the 24-hour period and the volume required to release the post development peak flow at or below the pre-development peak flow rates.

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Tables

Table 1. Rainfall Depth/Duration/Frequency Data

Storm Event	Rainfall Depth (inches)
2-year 24-hour	4.6
10-year 24-hour	6.8
25-year 24-hour	7.8
50-year 24-hour	8.8
100-year 24-hour	10.0
500-year 24-hour	11.5

**Table 2. SCS TYPE III 24-Hour Storm Hydrograph Rainfall Distribution
(15-minute intervals, P_{time} / P_{24})**

0.000	0.002	0.005	0.007	0.010	0.012	0.015	0.017
0.020	0.023	0.026	0.028	0.031	0.034	0.037	0.040
0.043	0.047	0.050	0.053	0.057	0.060	0.064	0.068
0.072	0.076	0.080	0.085	0.089	0.094	0.100	0.107
0.115	0.122	0.130	0.139	0.148	0.157	0.167	0.178
0.189	0.202	0.216	0.232	0.250	0.271	0.298	0.339
0.500	0.662	0.702	0.729	0.751	0.769	0.785	0.799
0.811	0.823	0.834	0.844	0.853	0.862	0.870	0.878
0.886	0.893	0.900	0.907	0.911	0.916	0.920	0.925
0.929	0.933	0.936	0.940	0.944	0.947	0.951	0.954
0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978
0.981	0.983	0.986	0.988	0.991	0.993	0.996	0.998
1.000							

Table 3. TR55 Runoff Curve Numbers by Land Use Category and Hydrologic Soil Group

LAND USE CATEGORY CODE	LAND USE DESCRIPTION	Hydrologic Soil Group			
		A	B	C	D
ROW	Impervious Roads Including Right-of-Way	83	89	92	93
COM	Urban Commercial Centers – Malls, Strip Shopping Centers	89	92	94	95
IND	Urban Industrial and Manufacturing	81	88	91	93
OFF	Schools/colleges/hospitals & office parks and centers	72	81	87	90
MF	Multi Family Dwellings – Apartments/Townhomes	77	85	90	92
R25	Single Family Residential – 0.25 acre lots	61	72	81	85
R33	Single Family Residential – 0.33 acre lots	57	70	80	84
R50	Single Family Residential – 0.50 acre lots	54	68	79	83
R200	Single Family Residential – 2.0 acre lots	46	64	76	81
RR	Rail Road	76	85	89	91
GOLF	Golf Courses	39	61	74	80
OPEN	Lawns, Parks – Fair condition	49	69	79	84
WOODS	Woods /brush (Good Condition)	36	60	73	79
MARSH	Marsh / Swamps	99	99	99	99
H2O	Water Bodies	99	99	99	99

Table 4

Table 5. Summary of Current Building Flooding (December 2000 Conditions)

Storm Event	Houses	Townhouse Units
2-year	0	0
10-year	2	0
25-year	8	22
50-year	15	32
100-year	23	32
500-year	24	32
Not flooded	20	0
Total	44	32

Table 6. Summary of Flood Reduction Alternatives

Alternative Number	Alternative Description	Benefit/Cost Ratio	Recommended
2C	New ditch along Bees Ferry Road to Railroad and new culverts under the Railroad	1.638	Yes
2B	New pipes and ditch from Shadowood to Railroad and new culverts under the Railroad	1.182	No
3	Part of Shadowmoss diverted to drain directly to the Ashley River	1.126	No
5	Channel improvements from Dunwoody to Hickory Farms	0.908	Yes
2A	New pipes and ditch from Shadowood to Railroad	0.563	No
6	Drainage above Village Green diverted to drain directly to the Ashley River	0.288	No
4	Drainage from Village Green and above diverted to drain directly to the Ashley River	0.287	No
7	Buyout of frequently flooded structures in Shadowood	0.177	No
1	Primary crossing under Railroad	0.002	No

Table 7. Detention Alternative Pros and Cons

Policy Option*	Pros	Cons
1	Easiest approach	Results in increased downstream volume, increased flow elevations and increased peak discharges.
2	Current practice, easy understanding for design community	Results in increased downstream volume, and increased flow elevations.
3	Excess runoff volume created from development is captured	Post-peak flow rates could be larger than the pre-rates (excess volume could be captured before peak flow is reached, excess volume may be less than required volume to control peak). Larger post-runoff volume could travel downstream sooner than pre-runoff volume.
4	More than excess runoff volume is captured at peak detention elevation (excess volume + drawdown volume)	Post-peak flow rate could be larger than the pre-rates (excess volume could be captured before peak flow is reached, excess volume may be less than required volume to control peak).
5	Excess volume is captured Peak discharge is controlled	Larger post- runoff volume could travel downstream sooner than pre- runoff volume (post- shape of hydrograph may have centroid sooner). If drawdown time is large, detention facilities could stay full for long periods of time.
6	Same Z-hour volume is released for pre- and post- conditions, and the post- peak flow rates will be equal to or lower than the pre- peak flow rates	Requires the most detention volume of the six options. Detention facilities will stay full for longer periods of time due to smaller outlet control devices.

* See page 6-1 for option descriptions.

Table 8. Future Flooding Impacts from Modeled Detention Alternatives

Policy Modification Alternative	Number of Finish Floors Inundated Per Condition				
	2-year	10-year	25-year	50-year	100-year
Houses					
Existing Conditions	0	2	8	15	23
Alt #1 –No Controls	0	4	9	19	24
Alt #2 –Peak Controls	0	3	9	18	24
Alt #3 –Volume Controls	0	2	9	17	24
Alt #6 –Peak and Volume Time Control	0	2 or less	8	15	23
Townhouse Units					
Existing Conditions	0	0	22	32	32
Alt #1 –No Controls	0	22	32	32	32
Alt #2 –Peak Controls	0	10	32	32	32
Alt #3 –Volume Controls	0	4	32	32	32
Alt #6 –Peak and Volume Time Control	0	0	22 or less	32	32

Figures

Maps

SECTION 1 INTRODUCTION

1.1 PROJECT AUTHORIZATION

Woolpert LLP was authorized to prepare a Storm Water Master Plan (SWMP) for the Church Creek Watershed under agreement with the City of Charleston. These terms are specified in the Agreement for Engineering Services dated September 2000 between the City of Charleston and Woolpert LLP.

1.2 PURPOSE

The Church Creek Watershed has experienced reoccurring residential flooding within the past 10 years. This watershed is approximately 8.5 square miles in size and drains to the Ashley River. The land use is currently comprised primarily of residential neighborhoods with undeveloped land and some industrial and commercial development. Over the past 10 years, the upper half of the watershed has undergone rapid residential development; there remains more than two square miles of undeveloped land planned for future development. During this same time period, there have been numerous yards that have flooded and several houses inundated with storm water on more than one occasion. As a result, the City of Charleston hired Woolpert to analyze the flooding problems and to create a Storm Water Master Plan for the Church Creek Watershed.

The purpose of this Storm Water Master Plan is to 1) identify existing storm water flooding problems, 2) analyze and recommend potential solutions to those identified problems, 3) analyze flooding impacts due to future development, 4) analyze the current storm water detention requirements, and 5) determine if land use restrictions or modifications to the detention requirements should be made. This process is in accordance with policies adopted by the City of Charleston to implement a comprehensive stormwater management program. The Church Creek Watershed SWMP will be used with other completed watershed SWMP's to establish citywide priorities for capital improvement projects based on the potential benefit versus overall cost (B/C ratio) of each recommended improvement. This SWMP may also be used as the community's source for hydraulic and hydrologic data for the Church Creek Watershed.

A substantial effort was made during the project planning process to make the ICPR model as user friendly as possible. The model created as a result of this study can and should be modified and updated based on improvements and changes made to individual components of the drainage system, as well as the drainage basin as a whole. This report provides the essential background information, methodologies, and assumptions necessary for the future use of the models as a tool in stormwater master planning the City of Charleston.

Upon acceptance of the final Church Creek Watershed SWMP document by the City of Charleston, the hydrologic and floodplain information from this report will be included in a Federal Emergency Management Agency (FEMA) restudy for Charleston County. Revised mapping of the floodplain may allow some property owners to qualify for flood insurance and be able to participate in FEMA programs for floodproofing, structure relocation or structure elevation. In addition, the SWMP will help the City of Charleston manage floodplains not regulated by FEMA.

FIGURE 1-1. – VICINITY MAP

SECTION 2 DESCRIPTION OF WATERSHED

2.1 WATERSHED LOCATION

The Church Creek Watershed is situated in the **western** part of Charleston in West Ashley with a total drainage area of **8.5** square miles (mi²) that drains **southeast** to the **Ashley River**. Elevations in the watershed range from **35** feet National Geodetic Vertical Datum (NGVD 1929), near the top of the watershed along Ashley River Road (SC-61), to **-4** feet NGVD at the confluence with the **Ashley River**. The upper portion of the watershed is mostly undeveloped land while the middle and lower portions are primarily residential with some commercial development along the major roadways.

2.2 HYDROLOGIC SUBDIVISION OF WATERSHED

For the purposes of this study, the watershed was divided into **seven** major groups, with a total of **89** sub-basins based on homogeneity of the drainage system, soils, and land use. The sub-basins range in size from **two** acres to **744** acres with an average size of **61** acres. The smaller sub-basins are located primarily in the residential neighborhoods while the larger sub-basins are located primarily in the undeveloped areas or downstream of the railroad. Each sub-basin was assigned a unique identifier. The naming scheme for the sub-basins consists of a “B-” followed by the node name where the sub-basin enters the model. If there is more than one sub-basin entering at the same node location, then the additional sub-basin’s digit is increased by one (e.g., sub-basins B-D130, B-D131, and B-D132 all enter at node N-D130). **Table 2-1** lists the groups and their descriptions while **Figure 2-1** shows the locations of the groups and sub-basins in the Church Creek Watershed.

Table 2-1. Group ID’s and Descriptions

Name ID	ICPR Group ID	Description
A	RR	Railroad Area and Below
B	HH	Hickory Hills Area
C	SM1	Shadowmoss #1 – Southeast Portion of Shadowmoss
D	SM2	Shadowmoss #2 – Northwest Portion of Shadowmoss
E	VG	Village Green Area
F	MC	Moss Creek Area
G	BL	Bees Landing Area

FIGURE 2-1 SUB-BASINS

2.3 STREAM CHANNELS

The Church Creek Watershed has a shape factor of 2.2:1 (length to width). There are three typical types of channels in the watershed: 1) channels that meander and branch through the marshy areas and have varying sizes and shapes, 2) wide man-made channels ranging from 30 ft to 50 ft in topwidth, with 4 ft to 10 ft bank heights that always have standing water, and 3) channels ranging from 15 ft to 25 ft in topwidth that travel through the neighborhoods and the upper portions of the watershed. The terrain within the watershed is flat with upstream inverts ranging from 3 ft to 6 ft in elevation. The modeled portion of the watershed consists of the main channel and several branching tributaries that have a combined length of approximately 20.2 miles.

2.4 SOILS

Soils in the Church Creek Watershed are predominantly in the C and D Hydrologic Soil Groups (HSG) and consist primarily of the Yonges (Yo)(HSG=D), Edisto (Ed)(HSG=C) and Hockley (HoA)(HSG=C) soil types. There are also large areas classified as Mine Pits (Mp), because this area was an old phosphate strip mine years ago, that are considered to have a HSG classification of D for this study. Other soils types include Stono (St), Kiawah (Ka), Wadmalaw (Wa), Santee (Se), and Capers (Cg) which are classified as Hydrologic Soil Group D, and Charleston (Ch), Seebrook (Sk), and Quitman (Qu) which are classified as Hydrologic Soil Group C. There are also areas of Wagram (WgB) and Wando (WnB) that fall in the Hydrologic Soil Group A.

The soils located in the Church Creek Watershed area are 5.1 percent HSG A, 0.2 percent HSG B, 25.0 percent HSG C, and 69.8 percent HSG D. Table 2-2 shows the percentage occupied by each Hydrologic Soil Group (HSG) within each sub-basin in the Church Creek Watershed. Figure 2-2 shows the Hydrologic Soil Group locations in the Church Creek Watershed.

Table 2-2. Summary of Hydrologic Soil Groups in Church Creek Watershed

SUB-BASIN NUMBER	HSG A (in percent)	HSG B (in percent)	HSG C (in percent)	HSG D (in percent)
B-A030	8.4	0	25	66.6
B-A040	6	2.3	28.5	63.1
B-A041	3.6	0	11	85.4
B-A060	23.2	0	7.2	69.7
B-A100	29.4	0	10.6	60.1
B-A120	14.7	0	4.5	80.7
B-A140	0.3	0	36.9	62.9
B-B020	0	0	0	100
B-B040	0	0	0	100
B-B060	0	0	61.3	38.7
B-B100	0	0	66.9	33.1
B-B140	0	0	36.2	63.8
B-B160	0	0	14.2	85.8
B-B170	0	0	0	100
B-B230	0	0	0	100
B-C010	0	0	19.3	80.7
B-C050	0	0	52.1	47.9
B-C080	0	0	37.7	62.3
B-C120	0	0	69.4	30.6
B-C130	0	0	34.2	65.8
B-C140	0	0	0	100
B-C150	4.3	0	82.3	13.4
B-C170	0	0	59.8	40.2
B-C190	0	0	26.9	73.1
B-C230	0	0	33.4	66.6
B-C270	0	0	65.8	34.2
B-D010	0	0	63.1	36.9
B-D020	0	0	20.6	79.4
B-D030	0	0	0	100
B-D050	0	0	15.8	84.2
B-D080	0	0	0	100
B-D110	0	0	12.7	87.3
B-D130	0	0	0	100
B-D131	33.1	0	34.7	32.2
B-D132	0	0	0	100

SUB-BASIN NUMBER	HSG A (in percent)	HSG B (in percent)	HSG C (in percent)	HSG D (in percent)
B-D140	0	0	0	100
B-D160	0	0	2.4	97.6
B-D190	0	0	0	100
B-D210	0	0	0	100
B-D220	0	0	0	100
B-E010	14	0	21.6	64.4
B-E020	0	0	0	100
B-E030	0	0	0	100
B-E040	0	0	0	100
B-E050	0	0	0	100
B-E060	0	0	0	100
B-E070	0	0	0	100
B-E080	0	0	0	100
B-E090	0	0	0	100
B-E100	0	0	0	100
B-E110	0	0	0	100
B-E120	0	0	0	100
B-E130	0	0	20.6	79.4
B-E140	0	0	94.6	5.4
B-E150	0	0	0	100
B-E160	0	0	0	100
B-E170	0	0	0	100
B-E180	0	0	0	100
B-E190	0	0	0	100
B-E200	0	0	0	100
B-E210	0	0	0	100
B-E220	0	0	0	100
B-E230	0	0	0	100
B-E231	0	0	0	100
B-E240	0	0	0	100
B-E250	0	0	0	100
B-E251	0	0	0	100
B-E252	0	0	0.5	99.5
B-E260	3.9	0	14.2	81.9
B-E270	0	0	0	100
B-F010	0	0	97	3

SUB-BASIN NUMBER	HSG A (in percent)	HSG B (in percent)	HSG C (in percent)	HSG D (in percent)
B-F030	17.4	0	53	29.6
B-F040	5.4	0	94.6	0
B-F060	50.8	0	48.9	0.3
B-F080	0	0	100	0
B-G020	0	0	55.4	44.6
B-G050	0	0	33.2	66.8
B-G060	0	0	100	0
B-G070	0	0	95.8	4.2
B-G080	0	0	100	0
B-G090	0	0	100	0
B-G110	0	0	100	0
B-G120	0	0	100	0
B-G130	0	0	60.9	39.1
B-G140	0	0	76.6	23.4
B-G150	0	0	7.7	92.3
B-G160	0	0	100	0
B-G180	11.2	0	10.5	78.3
B-G181	11.6	0	35.9	52.5

FIGURE 2-2 HYDROLOGIC SOIL GROUPS

2.5 LAND USE

Land use in the Church Creek Watershed is characterized by marsh, woods, residential and commercial areas in the lower portion of the watershed, mostly residential in the middle portion of the watershed with some commercial and industrial areas along Bees Ferry Road, and mostly undeveloped land in the upper portion of the watershed with limited residential. The existing land use used for this study consisted of December 2000 conditions. For hydrologic modeling purposes, land use in the Church Creek Watershed is defined by the 15 land use categories and they are listed in Table 2-3.

The existing land use was determined using current City zoning, GIS data of the watershed, and field observations. Table 2-3 shows existing land use distribution within the Church Creek Watershed. Table 2-4 shows runoff curve numbers by Land Use Category and Hydrologic Soil Group. The runoff curve numbers presented in Table 2-4 are based on average antecedent runoff conditions (ARC-II).

Table 2-3. Existing TR55 Land Use Distribution in Church Creek Watershed

LAND USE CATEGORY CODE	PERCENT OF WATERSHED	LAND USE DESCRIPTION
ROW	1.0	Impervious Roads, Including Right-of-Way
COM	1.1	Urban Commercial Centers – Malls, Strip Shopping Centers
IND	1.0	Urban Industrial and Manufacturing
OFF	1.8	Office parks and schools
MF	1.4	Multi Family Dwellings – Apartments/Townhomes
R25	1.1	Single Family Residential – 0.25 acre lots
R33	19.5	Single Family Residential – 0.33 acre lots
R50	6.0	Single Family Residential – 0.50 acre lots
R200	2.2	Single Family Residential – 2.00 acre lots
RR	1.0	Rail Road
GOLF	2.9	Golf Courses
OPEN	1.5	Lawns, Parks – Fair condition
WOODS	54.9	Woods/Brush (Good Condition)
MARSH	3.0	Marsh/Swamps
H2O	1.6	Water Bodies

Table 2-4. TR55 Runoff Curve Numbers by Land Use Category and Hydrologic Soil Group

LAND USE CATEGORY CODE	LAND USE DESCRIPTION	Hydrologic Soil Group			
		A	B	C	D
ROW	Impervious Roads Including Right-of-Way	83	89	92	93
COM	Urban Commercial Centers – Malls, Strip Shopping Centers	89	92	94	95
IND	Urban Industrial and Manufacturing	81	88	91	93
OFF	Schools/Colleges/Hospitals & office parks and centers	72	81	87	90
MF	Multi Family Dwellings – Apartments/Townhomes	77	85	90	92
R25	Single Family Residential – 0.25 acre lots	61	72	81	85
R33	Single Family Residential – 0.33 acre lots	57	70	80	84
R50	Single Family Residential – 0.50 acre lots	54	68	79	83
R200	Single Family Residential – 2.0 acre lots	46	64	76	81
RR	Rail Road	76	85	89	91
GOLF	Golf Courses	39	61	74	80
OPEN	Lawns, Parks – Fair condition	49	69	79	84
WOODS	Woods/Brush (Good Condition)	36	60	73	79
MARSH	Marsh/Swamps	99	99	99	99
H2O	Water Bodies	99	99	99	99

Table 2-5. Existing Land Use Distribution Within Each Sub-basin in the Church Creek Watershed

Sub-Basin	ROW	COM	IND	OFF	MF	R25	R33	R50	R200	RR	GOLF	OPEN	WOODS	MARSH	H2O
B-A030	0.0	2.7	0.0	6.2	0.2	3.1	38.6	15.8	2.0	1.6	0.0	2.9	11.3	13.8	1.7
B-A040	0.8	6.6	0.0	0.0	1.8	0.0	0.0	47.3	0.5	0.0	0.0	0.0	28.5	7.7	6.8
B-A041	3.2	0.3	0.0	14.4	7.7	0.0	2.0	10.9	0.0	4.0	0.0	0.0	41.6	14.2	1.6
B-A060	0.0	0.0	0.0	0.0	0.0	15.0	34.7	0.0	0.0	5.7	0.0	0.0	44.2	0.0	0.4
B-A100	4.6	0.0	44.5	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	45.4	0.0	0.9
B-A120	7.2	0.0	30.6	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.0	0.1	54.9	0.0	2.3
B-A140	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	86.4	0.0	0.4
B-B020	1.0	0.0	0.0	0.0	0.0	0.0	62.4	0.0	31.7	0.0	0.0	0.2	0.0	0.0	4.7
B-B040	6.5	0.0	0.0	0.0	0.0	0.0	75.7	0.0	0.0	0.0	0.0	2.7	0.0	0.0	15.0
B-B060	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	86.7	0.0	0.7
B-B100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.2	0.0	0.0	0.0	16.5	0.0	2.3
B-B140	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	50.8	0.0	0.0	0.0	39.5	0.0	1.0
B-B160	0.2	0.0	0.0	0.0	0.0	0.0	59.4	0.0	0.0	0.0	17.3	5.3	12.9	0.0	4.9
B-B170	0.0	0.0	0.0	0.0	0.0	0.0	93.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6
B-B230	3.7	0.0	0.0	0.0	0.0	0.0	71.3	0.0	0.0	0.0	0.0	5.7	0.0	0.0	19.3
B-C010	4.7	0.0	0.0	0.0	0.0	0.0	43.4	0.0	0.0	0.0	37.8	12.9	0.0	0.0	1.2
B-C050	9.9	0.0	0.0	0.0	0.0	0.0	22.7	0.0	0.0	0.0	65.2	0.0	0.0	0.0	2.2
B-C080	5.3	12.3	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.7	0.0	0.0
B-C120	1.5	0.0	0.0	0.0	35.8	0.0	32.0	0.0	0.0	0.0	10.0	11.0	6.6	0.0	3.1
B-C130	0.0	0.0	0.0	0.0	0.0	0.0	73.9	0.0	0.1	0.0	19.5	0.0	0.0	0.0	6.4
B-C140	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	29.2	0.0	0.0	0.0	4.1
B-C150	0.0	0.0	0.0	0.0	0.1	0.0	43.1	0.0	0.0	0.0	3.4	32.5	20.9	0.0	0.0
B-C170	0.0	0.1	0.0	0.0	0.0	0.0	59.9	0.0	0.0	0.0	4.9	34.5	0.0	0.0	0.6
B-C190	0.0	0.0	0.0	0.0	0.0	0.0	51.4	0.0	0.0	0.0	47.6	0.0	0.0	0.0	1.0
B-C230	0.6	0.0	0.0	0.0	0.0	0.0	85.3	0.0	0.0	0.0	9.6	0.0	0.0	0.0	4.5
B-C270	0.0	2.1	0.0	0.0	0.0	0.0	16.2	0.0	0.0	0.0	76.4	0.0	5.4	0.0	0.0
B-D010	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.6	0.0	4.9	0.0	84.9	0.0	1.6
B-D020	0.0	0.0	0.0	0.0	7.4	12.4	0.0	0.0	0.0	0.0	45.3	0.0	30.0	0.0	4.9
B-D030	0.0	0.4	0.0	0.0	16.2	40.2	0.0	0.0	0.0	0.0	6.4	0.0	31.1	0.0	5.8
B-D050	0.0	35.9	0.0	0.0	0.3	0.4	3.4	0.0	0.0	0.0	56.2	0.0	0.0	0.0	3.8
B-D080	0.0	0.0	0.0	0.0	21.3	0.0	7.1	0.0	0.0	0.0	65.0	0.0	0.0	0.0	6.6
B-D110	0.0	0.0	0.0	0.0	8.5	0.6	52.8	0.6	0.0	0.0	32.7	0.0	2.5	0.0	2.2
B-D130	0.0	0.0	0.0	0.0	0.0	0.0	83.4	0.0	0.0	0.0	10.3	0.0	5.1	0.0	1.2
B-D131	0.9	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	97.2	0.0	0.1
B-D132	0.0	0.0	0.0	0.0	0.0	10.0	2.2	0.0	0.0	0.0	33.3	0.0	53.7	0.0	0.8
B-D140	0.0	0.0	0.0	0.0	0.0	0.0	72.6	0.0	0.0	0.0	1.0	0.0	25.1	0.0	1.3
B-D160	0.0	0.0	0.0	0.0	0.0	0.0	95.0	0.0	0.0	0.0	3.8	0.0	0.0	0.0	1.2
B-D190	0.0	0.0	0.0	0.0	0.0	0.0	65.8	0.0	0.0	0.0	21.0	0.0	0.0	0.0	13.2
B-D210	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-D220	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E010	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	98.8	0.0	0.3

Sub-Basin	ROW	COM	IND	OFF	MF	R25	R33	R50	R200	RR	GOLF	OPEN	WOODS	MARSH	H2O
B-E020	0.0	0.0	0.0	0.0	0.0	0.0	74.5	0.0	0.0	0.0	0.0	0.0	25.5	0.0	0.0
B-E030	0.0	0.0	0.0	0.0	0.0	0.0	91.3	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.0
B-E040	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E050	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E060	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E070	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E080	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E090	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E100	0.0	0.0	0.0	0.0	0.0	0.0	99.1	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0
B-E110	0.0	0.0	0.0	0.0	0.0	0.0	99.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
B-E120	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E130	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E140	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E150	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E160	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E170	0.0	0.0	0.0	0.0	0.0	0.0	97.3	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0
B-E180	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E190	0.0	0.0	0.0	0.0	0.0	0.0	98.7	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
B-E200	0.0	0.0	0.0	0.0	0.0	0.0	86.9	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0
B-E210	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E220	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E230	0.0	0.0	0.0	0.0	0.0	0.0	98.9	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
B-E231	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0
B-E240	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-E250	0.0	0.0	0.0	0.0	0.0	0.0	63.9	0.0	0.0	0.0	0.0	0.0	36.1	0.0	0.0
B-E251	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.7	0.0	1.3
B-E252	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	99.7	0.0	0.0
B-E260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.7	0.0	0.3
B-E270	0.0	0.0	0.0	0.0	0.0	0.0	23.2	0.0	0.0	0.0	0.0	0.0	76.8	0.0	0.0
B-F010	0.0	0.0	0.0	0.0	0.0	0.0	89.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0
B-F030	0.0	0.0	0.0	0.0	0.0	0.0	64.3	0.0	0.0	0.0	0.0	0.0	35.7	0.0	0.0
B-F040	0.0	0.0	0.0	0.0	0.0	0.0	78.5	0.0	0.0	0.0	0.0	0.0	21.5	0.0	0.0
B-F060	5.4	0.0	0.0	0.0	0.0	0.0	56.9	0.0	0.0	0.0	0.0	0.0	37.7	0.0	0.0
B-F080	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.0	0.0	0.0
B-G020	7.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	91.7	0.0	1.2
B-G050	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	98.3	0.0	1.0
B-G060	0.0	0.0	0.0	0.0	0.0	0.0	92.4	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0
B-G070	0.0	0.0	0.0	0.0	0.0	0.0	99.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
B-G080	0.0	0.0	0.0	0.0	0.0	0.0	98.5	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
B-G090	0.2	0.0	0.0	0.0	0.0	0.0	99.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-G110	0.0	0.0	0.0	0.0	0.0	0.0	95.4	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0
B-G120	0.0	0.0	0.0	0.0	0.0	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-G130	0.6	0.0	0.0	0.0	0.0	0.0	99.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B-G140	1.6	0.0	0.0	0.0	0.0	0.0	98.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sub-Basin	ROW	COM	IND	OFF	MF	R25	R33	R50	R200	RR	GOLF	OPEN	WOODS	MARSH	H2O
B-G150	4.5	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	94.8	0.0	0.0
B-G160	0.9	0.0	0.0	0.0	0.0	0.0	78.6	0.0	0.0	0.0	0.0	0.0	20.5	0.0	0.0
B-G180	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5	0.0	0.1
B-G181	2.8	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	95.8	0.0	0.2

FIGURE 2-3 EXISTING LAND USE

SECTION 3 DESCRIPTION OF DATA USED IN ANALYSES

3.1 FIELD RECONNAISSANCE DATA

3.1.1 Stream Evaluations

A field reconnaissance of the Church Creek Watershed was performed by walking the length of the Church Creek mainstem and its tributaries. During this field reconnaissance, channel and overbank Manning's roughness coefficients were recorded with typical channel dimensions, pipe structure sizes and materials, depths of fill cover over the structures, hydraulic characteristics of detention/retention structures, watershed and sub-basin boundaries, and areas of flooding problems. Verification photographs were taken of all the structures and channels that were to be modeled. These photographs are provided on the CD in [Appendix D](#) of this report.

3.1.2 Survey Data

Invert elevations and roadway overtopping elevations for key culverts, bridges and detention structures were surveyed with several channel inverts taken in key locations. Finish floor elevations for 44 houses and six townhouse buildings were also surveyed for model calibration and for the alternative analysis.

3.2 RAINFALL DATA

3.2.1 Design Storm Data and Rainfall Frequency Depths

Rainfall depth/duration/frequency data for the 2-, 10-, 25-, 50-, and 100-year frequency storm events was obtained from the South Carolina Stormwater Management and Sediment Control Handbook (1995). This data was used to develop the 500-year, 24-hour rainfall amount using Probability-Log paper. These 24-hour rainfall amounts were used with the SCS TYPE III rainfall distribution in the ICPR model to calculate rainfall runoff amounts. The rainfall depth values are listed in [Table 3-1](#) and the SCS TYPE III distribution is listed in [Table 3-2](#).

Table 3-1. Rainfall Depth/Duration/Frequency Data

Storm Event	Rainfall Depth (inches)
2-year 24-hour	4.6
10-year 24-hour	6.8
25-year 24-hour	7.8
50-year 24-hour	8.8
100-year 24-hour	10.0
500-year 24-hour	11.5

Table 3-2. SCS TYPE III 24-Hour Storm Hydrograph Rainfall Distribution (15-minute intervals, P_{time} / P_{24})

0.000	0.002	0.005	0.007	0.010	0.012	0.015	0.017
0.020	0.023	0.026	0.028	0.031	0.034	0.037	0.040
0.043	0.047	0.050	0.053	0.057	0.060	0.064	0.068
0.072	0.076	0.080	0.085	0.089	0.094	0.100	0.107
0.115	0.122	0.130	0.139	0.148	0.157	0.167	0.178
0.189	0.202	0.216	0.232	0.250	0.271	0.298	0.339
0.500	0.662	0.702	0.729	0.751	0.769	0.785	0.799
0.811	0.823	0.834	0.844	0.853	0.862	0.870	0.878
0.886	0.893	0.900	0.907	0.911	0.916	0.920	0.925
0.929	0.933	0.936	0.940	0.944	0.947	0.951	0.954
0.957	0.960	0.963	0.966	0.969	0.972	0.975	0.978
0.981	0.983	0.986	0.988	0.991	0.993	0.996	0.998
1.000							

3.2.2 Historical Rainfall Data

Rainfall gage data for the Charleston Airport was obtained for the periods from January 1990 through December 2000, and for July 2001. This information was reported in hourly increments and was used to model historical storm events that had reported flooding problems. The storm periods modeled are listed in [Table 3-3](#) along with the total rainfall amounts. All of the gage data obtained is reported in [Appendix C](#).

Table 3-3. Rainfall Depth/Duration/Frequency Data

Year	Month	Day	24-Hour Depth (inches)	48-Hour Depth (inches)
2001	July	27	4.66	4.66
1999	September	29	5.35	5.71
1998	September	21	10.52	10.52
1998	February	17	5.92	5.92
1994	October	3	4.02	4.22

3.3 CITY OF CHARLESTON DATA

3.3.1 Digital Topography and Planimetric Coverages

Topographic and planimetric data were furnished by the City of Charleston in the form of ARCInfo GIS format coverages. This data was used in the watershed boundary delineation, stream connectivity determination, digital cross section generation, delineation of the time-of-concentration flow paths for lag time computations, street name definition, and spatial location of structures located in the floodplains. Digital topographic data was converted to National Geodetic Vertical Datum (NGVD) 1929. A hard copy of the City of Charleston map M-14 (1980, NGVD 1929) was used as supplementary data for locations without topographic data.

3.3.2 Storm Drainage Studies

Storm drainage studies done for sites within the watershed were provided by the City of Charleston. Information from these studies was used to verify invert elevations, detention storage and drainage results. The studies for Village Green, Moss Creek and Bees Landing completed by Seamon, Whiteside & Associates also contained ICPR models. Data from these three models were incorporated into the ICPR model for the entire watershed.

3.3.3 Historical Flooding Information

Areas of known flooding problems within the watershed were provided by the City of Charleston. Additional information was collected from residents that live within the watershed at a public meeting held on November 30, 2000. This information was used to validate and calibrate the ICPR model results.

3.4 FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)-FIS STUDY

The Flood Insurance Rate Map for the effective FIS was obtained for the Church Creek Watershed. Map (455412 0005D) was used to compare the floodplain elevations in the effective FIS for Church Creek with those developed as a result of this analysis. The effective FIRM shows this area as ZONE A2, A5, or A13, with a WSEL of 13 ft for the area downstream of Ashley River Road (SC-61), a WSEL of 11 ft for the area between the railroad and Ashley River Road, and a WSEL of 8 ft upstream of the railroad.

3.5 UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) SOILS COVERAGES

Soils information was obtained from the Charleston County Soil Survey (US Department of Agriculture, **March 1971**). This information was used to create a digital Hydrologic Soil Group (HSG) coverage. The soils coverage was used to compute the runoff curve number for each sub-basin.

3.6 NOAA/NOS DATA

Tide gage data for the Cooper River Entrance (8665530) in Charleston, SC was obtained for the period from January 1990 through December 2000. This information contained the monthly Mean High Water (MHW), Mean Low Water (MLW), Mean Higher High Water (MHHW) and Mean Lower Low Water (MLLW) elevations. The maximum MHHW and MLW elevations for this 10-year period were projected up the Ashley River and used as boundary conditions for the ICPR model at the confluence with the Ashley River. The projected MHHW and MLW elevations were 4.8 ft and -1.1 ft respectively. This information is reported in [Appendix C](#).

3.7 UNITED STATES GEOLOGICAL SURVEY (USGS) DATA

Elevation data from the USGS quadrangle for Johns Island, SC (1979) was used for locations where there was no City of Charleston elevation data. (NGVD of 1929)

There are no active U.S. Geological Survey (USGS) streamflow gaging stations or rainfall gaging stations located within the Church Creek Watershed.

3.8 TIME OF CONCENTRATION

A Microsoft Excel spreadsheet, programmed with the Soil Conservation Service (SCS) methodology and equations, was used to calculate the time of concentration for each sub-basin in the Church Creek Watershed. The program contains equations for calculating the travel time associated with the sheet flow, shallow concentrated flow, and channel flow segments of the overall time of concentration flow path within each sub-basin. In areas where there was a previous ICPR model completed, the previous study's time of concentration values were used.

SECTION 4 DESCRIPTION OF HYDROLOGIC AND HYDRAULIC MODELING

4.1 MODEL USED

The ICPR computer model (version 2.2) was used to model the Church Creek Watershed. This model is a link/node computer model that creates rainfall runoff hydrographs and then routes these hydrographs through the watershed. A general explanation of how the computer model works, excerpted from the ICPR User's Manual on page 2-12, is as follows.

“Each node in an ICPR model represents a control volume. Water enters and leaves each node by the links connected to it or from it. Water also enters nodes by way of surface runoff hydrographs and/or base flow. Storage at each node is provided by any link connected to or from it (e.g., channel storage) and/or any user specified supplemental storage (e.g., pond storage or overbank flooding). ICPR calculates the change in storage for each node based on the differences between inflows and outflows at each time step during the simulation period. The changes in storage are used to determine elevations at each node. Flows through each link are calculated from the known elevations at each end of the link and the hydraulic properties of the link (e.g., slope, roughness, geometric configuration, etc).”

4.2 HYDROLOGIC MODELING

4.2.1 Model Assumptions

The Hydrology routine in ICPR is used to compute runoff losses and then generate a runoff hydrograph for each of the sub-basins within the Church Creek Watershed. The following are some of the underlying theoretical assumptions that govern the model's applicability to this watershed:

- The hydrologic process can be represented by the model parameters that reflect average conditions within a catchment area.
- Rainfall and losses are uniformly distributed across the watershed.
- All runoff from a catchment area goes to the same outfall point...eventually.
- The modeling procedure used in this modeling project followed the “SCS Methodology”. This terminology is an “umbrella” term used to cover a wide range of procedures relating to rainfall and losses, runoff and hydrograph routing, and use of the SCS Unit Dimensionless Hydrograph to develop runoff hydrographs.
- The 24-hour storm was used for all flood frequency simulations in this project.
- The SCS Type III rainfall distribution was used.

- Adjustments for directly connected impervious areas were not considered because the SCS methodology used in this modeling project assumes “very short” flow paths between the imperviousness and the drainage system for urban condition runoff curve numbers. In the majority of the urban settings in the Church Creek Watershed, the flow path distance from the impervious surface to the storm water collector system is indeed relatively short. Therefore, runoff (particularly during the less frequent storm events) cannot pond long enough for significant infiltration losses to occur.

4.2.2 Model Parameter Development

There are 89 sub-basins within the Church Creek Watershed that were modeled. The parameter data for each of these sub-basins can be found in Section 8 of this report. The following is the list of parameter data used and/or developed for the hydrologic modeling.

Rainfall Data: Rainfall depths from the South Carolina Stormwater Management and Sediment Control Handbook were used along with the SCS Type III rainfall distribution. For this analysis, the 2-, 10-, 25-, 50-, 100-, and 500-year storms were used.

Drainage Area: Drainage basin boundaries for the Church Creek Watershed, and sub-basins were delineated in ARC-Info using a Digital Terrain Model (DTM) of the watershed. The GIS was used to compute the area of each sub-basin and the entire Church Creek Watershed. The average sub-basin area was 61 acres.

Runoff Curve Numbers: A weighted runoff curve number was calculated for each sub-basin by using GIS with soils, land use, and sub-basin boundary coverages. The GIS references a “Look-up Table” of runoff curve numbers for the various soil and land use category combinations and assigns a runoff curve number to each polygon within a sub-basin. For a given sub-basin, the individual runoff curve numbers are multiplied by the drainage area of the polygon they represent and the results are summed and divided by the total drainage area of the sub-basin. The resultant runoff curve number is the weighted runoff curve number for the sub-basin.

Time of Concentration/Lag Time: Time of concentration is the time required for a drop of water (during a 2-year runoff event) to travel from the hydraulically most remote part of a catchment to its outfall. The time of concentration has three associated flow path components:

- 1) sheet flow,
- 2) shallow concentrated flow, and
- 3) channel flow.

In general, the length of the sheet flow segment for a sub-basin was limited to 100 feet for urban areas and 300 feet for undeveloped or rural areas. The shallow concentrated flow segment extended from the downstream end of the sheet flow segment to the first topographically defined swale or pipe on the topographic maps. The channel flow segment extended from the downstream end of the shallow concentrated flow segment to the outfall of the sub-basin. Where appropriate, the channel flow segment was subdivided into circular, triangular, rectangular, and trapezoidal channel sub-reaches.

4.3 HYDRAULIC MODELING

4.3.1 Assumptions

As with the Hydrology routine, it is important to understand the underlying theoretical assumptions with the Hydraulic routine. These assumptions are as follows:

- The stream channel has rigid boundary conditions (the cross sectional area does not change with time).
- Manning's roughness coefficients were selected to represent full summer growth conditions (worst case). In addition, weighted roughness coefficients were used that were representative of the full range of flood discharges being modeled.
- All structures and channels in the Church Creek Watershed were modeled as if they were open and free of debris. The reason for this assumption was to produce water-surface profiles reflecting system design capacity. It should be noted, however, that some of the structures were in reality partially blocked with debris or sediment deposits.

4.3.2 Model Input Parameters

Channel Invert Profiles: The channel invert profiles were developed by combining the inverts derived from topographic maps, surveyed inverts at road crossings that were collected by Woolpert surveyors, information provided in previous drainage studies within the watershed, and information collected during the field reconnaissance.

Cross Sections: Cross sections were created in GIS using topographic and planimetric coverages. Channel dimensions collected during the field reconnaissance were then merged with the DTM cross sections to make a composite cross section that best represents the actual channel section.

Manning's n Values: Manning's roughness coefficients were derived for the channels and floodplains from the field reconnaissance. A Manning's roughness value of 0.013 was used for concrete culverts (pipe and box) and a Manning's roughness value of 0.025 was used for corrugated metal pipe culverts. Manning's roughness values in the channels ranged from 0.045 to 0.075 while the overbanks had values that ranged from 0.020 to 0.180.

Boundary Conditions: The maximum MHHW and MLW elevations for the last 10 years at the Cooper River Entrance were projected up the Ashley River and used as boundary conditions for the ICPR model at the confluence with the Ashley River. The projected MHHW and MLW elevations were 4.8 ft and -1.1 ft respectively, and were used for all the modeled storm events using a linear 12-hour cycle. The start of the cycle was set so that the effects of high tide in the vicinity of the railroad occurred around hour 22, which is approximately the same time as the peak hydrograph from the 24-hour SCS Type III storm event. This was done to produce the largest backwater effects at the railroad crossing.

4.4 MODEL CONNECTIVITY

For the purposes of this study, the watershed was divided into **seven** major groups to be used in the ICPR model. The ICPR model for the Church Creek Watershed contains **89** sub-basins, **138** nodes, **57** channel links, **84** pipe links, **57** weir links, **nine** drop-structure links, and **two** bridges. **Table 4-1** lists the group names, the number of structures and number of storage nodes within each group, while **Figure 4-1** shows the ICPR link/node network. A large scale map of the ICPR link/node network is also provided in **Appendix E**. The following is the scheme used to name the nodes, links and templates within the ICPR model:

Nodes: Consist of a “N-” followed by the node name, which is the group name ID and a 3-digit number. (Example: N-A050, N-B110, or N-G150) Nodes were numbered from downstream to upstream in increments of 10 within each group. This allows the possibility of inserting additional nodes at a later time if needed yet still be able to conform to the naming scheme. (e.g., N-A055 can be inserted between nodes N-A050 and N-A060.)

Sub-Basins: Consist of a “B-” followed by the node name where the sub-basin enters the model. If there is more than one sub-basin entering at the same node location, then the additional sub-basins have the digit increased by one (e.g., sub-basins B-D130, B-D131, and B-D132 all enter at node N-D130).

Links: Consist of an “L-” followed by the group name ID, the upstream node number, and the link type and number. The link types are either a “P” for pipe, a “W” for weir, a “C” for channel, a “D” for drop inlet, or a “B” for bridge. For example, if two different size pipes and one weir leave node “N-C060”, then the three links would be named L-C060P1, L-C060P2, and L-C060W1.

Cross Section Templates: Consist of an “X-” followed by the group name ID, the upstream node number, another dash (-), and the number. For example, if there are two different cross sections below node

N-D130 that are going to be used in link L-D130-C1, then the cross section templates would be named X-D130-1 and X-D130-2.

Table 4-1. Church Creek Watershed ICPR Model Information

Name ID	ICPR Group ID	NUMBER OF LINKS					NUMBER STORAGE NODES
		CHANNEL	PIPE	BRIDGE	DROP STRUCTURE	WEIR	
A	RR	8	12	1	0	4	1
B	HH	15	2	1	4	7	4
C	SM1	16	17	0	0	15	5
D	SM2	11	12	0	0	14	10
E	VG	2	20	0	3	7	26
F	MC	0	7	0	1	0	8
G	BL	5	14	0	1	10	11
	TOTAL	57	84	2	9	57	65

Figure 4-1 ICPR network

SECTION 5 MODEL CALIBRATION/VERIFICATION

5.1 CALIBRATION/VERIFICATION

The **ICPR model** was calibrated and verified using **four** different sources of information:

5.1.1 Previous FIS Study

The Flood Insurance Rate Map (FIRM) for the effective FIS was obtained for the Church Creek Watershed. The effective FIRM map (455412 0005D) shows portions of the Church Creek Watershed as either ZONE A2, A5, or A13. These zones have a WSEL of 13 ft for the area downstream of Ashley River Road (SC-61), a WSEL of 11 ft for the area between the railroad and Ashley River Road, and a WSEL of 8 ft upstream of the railroad. These FIS elevations are for storm surge and could not be used to calibrate of this riverine model.

5.1.2 Previous Drainage Models

Storm drainage studies for Village Green, Moss Creek and Bees Landing completed by Seamon, Whiteside & Associates contained ICPR models. Data from these three models were incorporated into the ICPR model for the entire watershed. Model results in these areas from the watershed ICPR model were compared to the results of the individual ICPR models to verify that the models were behaving similarly. The boundary conditions of the individual models varied somewhat from the tailwater conditions that were produced in the watershed model. After accounting for these boundary condition differences, the watershed model produced similar results as the individual models.

5.1.3 USGS Regression Equation

Peak flows were computed based on the USGS regression equations (USGS Report 92-4040 and USGS Report 91-4157) using the lower coastal plain as the hydrologic area. Impervious areas for each sub-basin were estimated based on the land use and by applying the percent impervious values for each land use as reported in TR-55. **Table 5-1** compares the ICPR model results with the calculated USGS regression equations for both the rural and urban equations. The locations of these comparison points are shown on **Figure 5-1**. The urban regression equation is not valid for percent impervious of less than 10 percent. Most of these drainage areas have seven to 18 percent impervious areas, therefore the true regression discharge will fall somewhere between the calculated urban and rural discharges. The ICPR model results showed discharges that were very similar to the rural regression discharges.

Table 5-1. Comparison of Flows (ICPR, and USGS Regression)

#	LOCATION DESCRIPTION	SUB-BASINS ABOVE	AREA (sq mi)	TOTAL IMP. AREA (%)	ICPR 2-yr (cfs)	USGS Rural 2-yr (cfs)	USGS Urban 2-yr (cfs)	ICPR 10-yr (cfs)	USGS Rural 10-yr (cfs)	USGS Urban 10-yr (cfs)
1	Above Village Green	N-E260	1.17	0.0	118	62	---	233	173	---
2	Below Village Green	N-E010	2.01	4.6	160	86	---	338	236	---
3	Dunwoody	N-D130	2.35	7.0	126	95	106	287	259	262
4	Hickory Farms	N-B160	3.63	13.0	302	126	318	507	336	711
5	Bees Ferry – Mainstem	N-B010	4.14	13.2	327	137	358	544	363	794
6	Railroad	B-A110	6.22	12.0	438	177	436	693	461	957
7	SC-61	N-A030	8.47	18.4	550	215	934	874	553	1914
8	Bees Ferry – Location 2	N-G010	1.37	5.1	89	68	---	134	189	---
9	Railroad – Location 2	N-A140	2.07	9.8	123	88	146	181	241	348
10	Hickory Hills	N-B180	1.39	23.2	192	68	316	273	190	690
11	Chippers Pitch and Putt	N-C010	0.58	23.4	84	39	165	100	113	375
12	Shadowmoss Pond #6	N-D020	0.26	24.2	69	24	95	92	71	223
#	LOCATION DESCRIPTION	SUB-BASINS ABOVE	AREA (sq mi)	TOTAL IMP. AREA (%)	ICPR 25-yr (cfs)	USGS Rural 25-yr (cfs)	USGS Urban 25-yr (cfs)	ICPR 100-yr (cfs)	USGS Rural 100-yr (cfs)	USGS Urban 100-yr (cfs)
1	Above Village Green	N-E260	1.17	0.0	297	243	---	442	368	---
2	Below Village Green	N-E010	2.01	4.6	444	333	---	695	502	---
3	Dunwoody	N-D130	2.35	7.0	376	365	369	613	550	573
4	Hickory Farms	N-B160	3.63	13.0	612	473	950	907	708	1365
5	Bees Ferry – Mainstem	N-B010	4.14	13.2	643	511	1057	951	764	1513
6	Railroad	B-A110	6.22	12.0	819	649	1274	1090	966	1824
7	SC-61	N-A030	8.47	18.4	1055	779	2457	1389	1156	3333
8	Bees Ferry – Location 2	N-G010	1.37	5.1	155	266	---	196	402	300
9	Railroad – Location 2	N-A140	2.07	9.8	209	339	480	276	511	721
10	Hickory Hills	N-B180	1.39	23.2	315	268	896	392	405	1236
11	Chippers Pitch and Putt	N-C010	0.58	23.4	102	160	494	109	243	695
12	Shadowmoss Pond #6	N-D020	0.26	24.2	104	100	297	166	154	424

Figure 5-1 regression locations

5.1.4 Historical Structure Flooding

There are several houses and townhouses within the Church Creek Watershed that have flooded on more than one occasion in the past 10 years. Flooding information for these buildings were collected at a Public Meeting held for the residents. Additional information was gathered by interviews that were conducted with some of the residents during the field reconnaissance. The finish floor elevations of these buildings, which are located in three primary locations, were surveyed and used to verify the model results. **Figure 5-2** shows the location of these structures.

- Townhouses in Shadowmoss located near node N-D030 have been inundated with one to three inches of water on at least two occasions. The finish floor elevations range from 8.87 ft to 9.19 ft.
- Several houses in the Shadowood neighborhood located near node N-C060 have been inundated with three to 12 inches of water on at least four occasions. One house is reported to have had 18 inches of water during one of those occasions. The four lowest finish floor elevations among these houses are 9.64 ft, 10.02 ft, 10.05 ft and 10.07 ft.
- A house located on Winners Circle near node N-B060 has had water come up to within an inch below the finish floor elevation of 8.55 ft but has not been inundated.

Historical rainfall data for the four largest storm events from the past 10 years were used to calibrate the model results at these three locations. One of the historical rainfall events had a total rainfall depth greater than the 100-year event and showed unreasonable flooding results. The three other storm events had more reasonable results with rainfall depths between the 2- and 10-year events. These results showed slightly higher elevations at the house on Winners Circle (downstream most point), similar elevations near the townhouses (upstream point), and lower elevations near Shadowood where the majority of the flooding occurs.

In order for the model to give the same results as the historical flooding, the elevational difference between the townhouses and the downstream location should be around six inches, while the difference between the Shadowood houses and the downstream location should be around two feet. Several runs were made with some of the model parameters adjusted (i.e., curve numbers, time of concentrations, Manning's n values, antecedent runoff condition, etc.) to try and achieve closer model results in these three locations. Any parameter changes that increased the water surface elevation near Shadowood would also increase the elevation at the downstream location. In order to produce similar flooding in the Shadowood location, parameters had to be adjusted to unreasonable values and in return would produce unreasonable water surface elevations downstream. Therefore, it is assumed that other factors not included in the ICPR model contributed to the flooding in the Shadowood area.

Near the end of this project, a large storm event occurred on July 27, 2001 and flooded several of the houses in the Shadowood area. Rainfall for this storm event was also run in the model and the results did not produce the magnitude of flooding as reported by the residents.

Figure 5–2 house locations

SECTION 6 STORMWATER MANAGEMENT ALTERNATIVES

6.1 SUMMARY OF EXISTING FLOODING

The existing condition ICPR model was used to analyze the performance of the drainage system elements in their current configuration. The model predicts the occurrence of flooding at numerous locations throughout the watershed in response to significant rainfall events. Structures that may potentially be at risk of flood damage in the 100-year flood event were identified using the elevations from the ICPR model. This was done by locating all building footprints that were in or bordering the 100-year floodplain and structures that were identified by the City as having flooding complaints. A drive by survey was performed at each of these structures to determine if the structure was truly at risk. This was done by estimating the depth from the finish floor to the ground around the house and comparing it to the depth of flooding as determined by the ICPR model. Surveyors were then dispatched to obtain accurate finished floor and foundation elevations for 44 houses and six townhouse buildings, containing a total of 32 units, that were determined to be at risk of flooding. This information enabled detailed analysis of flooding impacts on these structures. From this detailed analysis, the depths of flooding under existing conditions were determined for the 2-, 10-, 25-, 50-, 100-, and 500-year flood events. Table 6-1 below provides an overall summary of the results of our analysis of 76 flood prone structures in the watershed. These results are based on existing land use conditions. The model results showed that two houses have finish floor flooding in the 10-year storm event while 23 houses and 32 townhouses have finish floor flooding in the 100-year storm event. The structures surveyed are located in three areas of the watershed; 25 structures are in the Shadowood neighborhood, 19 structures are in the Hickory Farms neighborhood, and the six townhouse buildings are located in Shadowmoss. A detailed list of the flooding at each surveyed structure is provided in APPENDIX C. Maps showing the existing flooding conditions are in Appendix F.

Table 6-1. Summary of Building Flooding

Storm Event	Houses	Townhouse Units
2	0	0
10	2	0
25	8	22
50	15	32
100	23	32
500	24	32
Not flooded	20	0
Total	44	32

6.2 BENEFIT/COST ANALYSIS

Mitigation measures for the three problem areas were identified that would likely be technically feasible, cost effective, and accepted by the local community. These alternatives were focused only on modifications to the City's drainage infrastructure and included such options as culvert improvements, channel improvements, pump stations and temporary flood storage. Buyout of several of the more frequently flooded structures was also considered.

Acceptable alternatives were conceptually designed and inserted into the ICPR model and re-run to determine the impacts on the flooding conditions. If necessary, alternatives were modified or refined to optimize their performance, as predicted by the models. Once a final version of the alternative was modeled and flood improvements were determined, then the flood elevation information resulting from that alternative was analyzed for its reduction in the flood damage to affected structures. For those mitigation alternatives that produced a sufficient benefit, the next step was to develop a cost estimate for construction of the alternative(s). This was done by 1) identifying the items required for construction, 2) determining unit prices, 3) determining quantities of materials, and 4) calculating construction costs.

The next step in the analysis process was to determine the economic impact of flooding. These analyses were conducted by calculating the approximate expected annual damages to these structures by using elevation-frequency and depth-damage relations developed by the Federal Emergency Management Agency (FEMA) and a modification of FEMA's QuattroPro Spreadsheet program Benefit-Cost Analysis of Hazard Mitigation Projects (1996). The Benefit/Cost (B/C) Analysis Methodology consists of using the known flood elevations and depth of flooding in each flood analyzed at each impacted structure and calculating an annual damage cost figure. Annual impacts to individual structures were totaled and converted to a present worth value, based on a useful life of 40 years and an interest rate of 7%. Structure tax values were obtained from the County of Charleston Property Information System.

In general this B/C method requires that each mitigation alternative to solve a storm water problem be analyzed individually. First, a cost of implementing the alternative is developed, then the present worth of annual damages without the mitigation alternative is determined, followed by the present worth of annual damages with the mitigation alternative in place. The difference between these two present worth values is the benefit derived by implementing of the mitigation alternative and this is divided by the cost developed above to determine the B/C ratio. Note that the benefits must be calculated individually for each structure that is helped by the mitigation alternative and then the benefits are summed to determine the total benefit.

This B/C analysis is intended to determine to a rough degree of accuracy, the ratio of dollar value of benefits to the dollar value of costs for a proposed project. The purpose of this analysis is to enable a manager to make an informed decision regarding the relative priority of a particular project as compared to other similar projects. Projects with higher B/C ratios likely justify a higher priority ranking than those with lower ratios. A project with a B/C ratio less than one is not economically feasible based on its merits alone. However, the B/C analysis is only one factor (albeit a major factor) in deciding how to prioritize projects. Other factors enter into this decision that do not lend themselves to economic analysis. These factors may include:

- Direct public endangerment,
- Restriction of emergency access,
- Impact on street system(s), or
- Public inconvenience.

6.3 FLOOD MITIGATION ALTERNATIVES

Once the existing flooding conditions were identified, a total of **nine** alternatives were investigated to address flooding in the **three** problem locations. The first level of investigation was to alter the ICPR model in a coarse fashion to see if removing or adding a culvert, enlarging a channel, or provide significant runoff storage would beneficially reduce flooding. If the coarse changes in the models produced a beneficial change in the flooding impacts, then the alternative was pursued to the next level of detail.

If the coarse analysis indicated beneficial results, the alternative was then held for more detailed analysis to determine if it produced a significant reduction in flooding damages as calculated in the benefit portion of the B/C analysis. If significant benefits were achieved, a cost was determined for the alternative and the B/C analysis was performed. **Table 6.2** lists those alternatives that were analyzed and their B/C ratio. **Table 6.3** lists the number of houses and townhouse units that are inundated during each storm event. Following these tables is a more detailed description of the alternatives. Figures 6-1, 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 6-8, 6-9 show the location of each of the alternatives. Information used in the B/C calculations (i.e., structures, tax values, costs, benefits, etc.) are provided in **Appendix C**.

Table 6-2. Summary of Analyzed Alternatives

Alternative Number	Alternative Description	Benefit/Cost Ratio
1	New pipes at primary crossing under Railroad	0.002
2A	New pipes and ditch from Shadowood to Railroad	0.563
2B	New pipes and ditch from Shadowood to Railroad and new culverts under the Railroad	1.182
2C	New ditch along Bees Ferry Road to Railroad and new culverts under the Railroad	1.638
3	Part of Shadowmoss diverted to drain directly to the Ashley River	1.126
4	Drainage from Village Green and above diverted to drain directly to the Ashley River	0.287
5	Channel improvements from Dunwoody to Hickory Farms	0.908
6	Drainage above Village Green diverted to drain directly to the Ashley River	0.288
7	Buyout of frequently flooded structures in Shadowood	0.177

Table 6-3. Number of Structures Inundated (December 2000 Landuse Conditions)

Alternative Number	Houses					Townhouse Units				
	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr
Existing	0	2	8	15	23	0	0	22	32	32
1	0	2	8	15	23	0	0	22	32	32
2A	0	2	6	14	23	0	0	10	32	32
2B	0	0	3	8	18	0	0	10	32	32
2C	0	0	1	2	5	0	0	0	32	32
3	0	0	1	1	2	0	0	0	32	32
4	0	1	7	14	23	0	0	0	0	10
5	0	1	8	15	23	0	0	10	32	32
6	0	1	8	15	23	0	0	0	22	32
7	0	1	1	3	6	0	0	22	32	32

Alternative #1

Location: Main railroad crossing

Description: Add two additional 72-inch diameter steel pipes

Results: This improvement provides more flow area under the culvert but has little to no effect on the water surface elevations upstream of the railroad. The railroad culverts are controlled by the water surface elevation on the downstream side of the railroad.

Present Value Benefit: \$722

Cost Estimate: \$302,850

Benefit/Cost Ratio: 0.002

Alternative #2A

Location: Shadowood neighborhood

Description: Create a new ditch that drains from the existing 36 inch culvert under Bees Ferry Road to a culvert under the railroad approximately 800 feet away. This would also require adding additional pipes down Wolk Drive to tie into the culvert under Bees Ferry Road, and cleaning out the existing culvert that is almost completely full of sediment. Some improvements to the channel downstream of the railroad may also be required.

Results: This improvement provides very little benefit to the structures in the Shadowood neighborhood. The water surface elevations are reduced by about 0.1 ft in the 10-year storm event to about 0.2 ft in the 100-year event.

Present Value Benefit: \$120,580
Cost Estimate: \$214,021
Benefit/Cost Ratio: 0.563

Alternative #2B

Location: Shadowood neighborhood

Description: Create a new ditch that drains from Bees Ferry Road to the railroad approximately 800 feet away. Install two new 60-inch steel pipes under the railroad at a lower invert than the existing culvert. Replace the existing culvert under Bees Ferry Road with two 36-inch pipes at a lower invert than the existing pipe. This would also require adding pipes down Wolk Drive to tie into the culverts under Bees Ferry Road. Some improvements to the channel downstream of the railroad may also be required.

Results: This improvement provides some benefit to the structures in the Shadowood neighborhood. The water surface elevations are reduced by about 0.75 ft in the 2-year storm event to about 0.4 ft in the 100-year event.

Present Value Benefit: \$501,199
Cost Estimate: \$424,065
Benefit/Cost Ratio: 1.182

Alternative #2C

Location:	Along Bees Ferry Road near the Shadowood neighborhood
Description:	Plug the two existing 48-inch pipes that cross under Bees Ferry Road. Create a new ditch that runs along Bees Ferry Road for approximately 1,300 ft and then turns toward the railroad approximately 800 feet away. Install two new 60-inch steel pipes under the railroad at a lower invert than the existing culvert. Some improvements to the channel downstream of the railroad may also be required.
Results:	This improvement provides the most benefit to the structures in the Shadowood neighborhood. The water upstream of Shadowood is diverted away from the neighborhood. The water surface elevations are reduced by about 0.8 ft in the 2-year storm event to about 1.0 ft in the 100-year event.
Present Value Benefit:	\$917,924
Cost Estimate:	\$560,490
Benefit/Cost Ratio:	1.638

Alternative #3

Location:	Shadowmoss near Ashley River Road and Bees Ferry Road
Description:	Block the existing weir that is just upstream of the two existing 48-inch pipes that cross under Bees Ferry Road and block the outfall at the 5 th fairway. Divert the outfall for the golf course pond near the 6 th and 8 th holes to outfall directly to the Ashley River. This new outfall will run from Hunters Forest Drive towards Ashley River Road and then towards the Ashley River. This will consist of two new 48-inch pipes beginning at the pond and running approximately 850 feet under Hunters Forest Drive and under Ashley River Road. A new ditch will be created that continues approximately 1,300 ft until it reaches the Ashley River.
Results:	This improvement provides benefit to the structures in the Shadowood neighborhood and to several houses within Shadowmoss. The water surface elevations in Shadowood are reduced by about 1.1 ft in the 2-year storm event to about 1.3 ft in the 100-year event.
Present Value Benefit:	\$1,130,700
Cost Estimate:	\$1,004,010
Benefit/Cost Ratio:	1.126

Alternative #4

Location: Shadowmoss and Village Green

Description: Divert all the storm water coming to a point just downstream of Village Green directly to the Ashley River. This would consist of several new ditches, pipes and a pump station running between the houses located in Shadowmoss and Village Green.

Results: This improvement provides benefits to many downstream structures including the Shadowwood neighborhood. However, this alternative is costly and would require numerous drainage easements.

Present Value Benefit: \$1,150,796

Cost Estimate: \$4,013,430

Benefit/Cost Ratio: 0.287

Alternative #5

Location: Channel between Shadowmoss and Moss Creek

Description: Increase the size of the channel to provide more flood storage. This would consist of channel improvements for approximately 2,500 feet. The top width of the channel would be increased from the existing average top width of 20 feet to a new top width of approximately 50 feet.

Results: This improvement provides a small benefit to the structures located on Two Loch Place. The water surface elevations are reduced by about 0.2 ft for each of the storm events.

Present Value Benefit: \$275,990

Cost Estimate: \$303,825

Benefit/Cost Ratio: 0.908

Alternative #6

Location:	Village Green
Description:	Divert all the storm water coming to a point just upstream of Village Green directly to the Ashley River. This would consist of several new ditches and pipes running just north of Village Green.
Results:	This improvement provides some benefit to downstream structures located on Two Loch Place. The water surface elevations are reduced by about 0.2 ft for each of the storm events.
Present Value Benefit:	\$506,917
Cost Estimate:	\$1,763,130
Benefit/Cost Ratio:	0.288

Alternative #7

Location:	Shadowood neighborhood
Description:	The City would buy a section of houses along Wolk Drive and Mowler Drive that borders Bees Ferry Road. This would include the houses that have experienced reoccurring flooding over the last 10 years and some other houses along these streets. This land could then be filled and used by the City (i.e., fire or police station).
Results:	This improvement removes a majority of the structures completely from the floodplain that have had repeated flooding over the past 10 years. This alternative does not provide a large financial benefit; however there may be several intangible items that a price cannot be assigned to (i.e., public endangerment, or emergency vehicle access).
Present Value Benefit:	\$436,478
Cost Estimate:	\$2,464,200
Benefit/Cost Ratio:	0.177

Figure 6-1

Figure 6-2

Figure 6-3

Figure 6-4

Figure 6-5

Figure 6-6

Figure 6-7

Figure 6-8

Figure 6-9

6.4 PROPOSED ALTERNATIVES

The results of the B/C analysis for reducing building flooding had three positive alternatives. However, all three of those alternatives (#2B, #2C, and #3) provide relief to the Shadowood neighborhood. Alternative 2C provides the largest B/C ratio and is the recommended alternative to reduce flooding in the Shadowood neighborhood. Alternative #5 is the only other alternative that has close to a positive B/C ratio. This alternative is to increase the available channel storage between Dunwoody and Hickory Farms. **Table 6-4** lists the prioritized alternatives by B/C ratio and recommends alternatives for the City to consider. The recommended alternatives #2C and #5 have estimated costs of \$560,490 and \$303,825 respectively. The combined cost for both Alternative #2C and #5 is \$864,315. The itemized cost estimates are provided in **Appendix C**.

Table 6-4. Summary of Recommended Alternatives

Alternative Number	Alternative Description	Benefit/Cost Ratio	Recommended
2C	New ditch along Bees Ferry Road to Railroad and new culverts under the Railroad	1.638	Yes
2B	New pipes and ditch from Shadowood to Railroad and new culverts under the Railroad	1.182	No
3	Part of Shadowmoss diverted to drain directly to the Ashley River	1.126	No
5	Channel improvements from Dunwoody to Hickory Farms	0.908	Yes
2A	New pipes and ditch from Shadowood to Railroad	0.563	No
6	Drainage above Village Green diverted to drain directly to the Ashley River	0.288	No
4	Drainage from Village Green and above diverted to drain directly to the Ashley River	0.287	No
7	Buyout of frequently flooded structures in Shadowood	0.177	No
1	Primary crossing under Railroad	0.002	No

SECTION 7 STORMWATER DETENTION REQUIREMENTS

7.1 CURRENT REGULATIONS

The current detention regulations used by the City of Charleston are those required by the State of South Carolina. These regulations are listed in Section 72-307 and Appendix B of the South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities (September 1995). The major requirement as pertaining to storm water detention quantity control is that the post-development peak discharge rates shall not exceed pre-development discharge rates for the 2- and 10-year frequency 24-hour duration storm event. This requirement only controls the peak rate at which storm water can leave a site and does not consider the volume of water, or the timing of hydrographs at downstream locations. There is also no control requirement for the larger storm events.

The ICPR model was used to determine what effects controlling only the peak rates might have on hydrograph timing and water surface elevations within the watershed. The sub-basins upstream of Bees Ferry Road were modified to reflect future development land use conditions. These sub-basins were also set so that the peak runoff rates were limited to the existing conditions peak flow rates. This is an option within of ICPR that can be used to modify runoff hydrographs to simulate peak rate controls. ICPR does this by creating a hydrograph that limits the peak rate to a set discharge limit. Any discharge from the runoff hydrograph that is larger than the set discharge limit is set aside until the runoff discharge rate drops below the set limit. At this time, the saved discharge is added back to the hydrograph at a rate that still maintains the set discharge limit. Therefore, any discharge rate greater than a set limit is saved and added to the back end of the runoff hydrograph once the rates drop below the set discharge limit.

The 2- through 100-year storm events were modeled with the peak rate controls in place. The model results showed that there is **one** additional house that might have finish floor flooding in the 10-, 25- and 100-year storm events while there are **three** additional houses that may have finish floor flooding in the 50-year storm event. Therefore, the current detention requirement of only controlling peak discharge rates does not protect downstream locations from increased flooding due to new development. **Table 7-1** summarizes the flooding impacts with only peak rate controls.

Table 7-1. Flooding Impacts with Only Peak Rate Controls

Policy Modification Alternative	Number of Finish Floors Inundated Per Condition				
	2-year	10-year	25-year	50-year	100-year
Houses					
Existing Conditions	0	2	8	15	23
Future Conditions with Detention That Controls the Peak Rate	0	3	9	18	24
Townhouse Units					
Existing Conditions	0	0	22	32	32
Future Conditions with Detention That Controls the Peak Rate	0	10	32	32	32

7.2 DETENTION REQUIREMENT OPTIONS

Due to the extent of the existing flooding and the potential for future flooding in the watershed, a change in policy and requirements may be a solution to the problem. There were six possible policy modification alternatives investigated. Descriptions of these alternatives are listed below while [Table 7-2](#) shows a comparison of the pros and cons for each alternative.

- 1) No detention required,
- 2) Control peak flow rates only,
- 3) Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation,
- 4) Detain the excess 24-hour, X-year storm rainfall runoff until Z-time,
- 5) Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation and control peak discharge rates, and
- 6) Detain the excess 24-hour, X-year storm rainfall runoff until Z-time and control peak discharge rates.

X-year = given storm frequency (i.e., 2-year, 10-year, 100-year)

Z-time = given time (i.e., 24-hours)

Policy modification alternative #1, No detention required;

- This alternative would not require future development to provide detention, allowing direct release of all runoff.

Policy modification alternative #2, Control peak flow rates only (Current Policy):

- This alternative would implement the current policy of requiring detention facilities to detain runoff and release the post-development peak flow rates for the 2- and 10-year 24-hour storm events to the pre-development peak flow rates. However, the design storm event could be changed to a less frequent storm event (i.e., 25-year, 50-year, or 100-year) to address future storm water quantity problems. See Figure 7-1.

Policy modification alternative #3, Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation,

- This alternative would require detaining the excess runoff volume difference between the pre-development and post-development conditions for a given storm frequency X (i.e., 100-year storm event). This excess volume would occupy the peak storage volume in the detention facility. See Figure 7-2.

Policy modification alternative #4, Detain the excess 24-hour, X-year storm rainfall runoff until Z-time:

- This alternative would require detaining the excess runoff volume difference between the pre-development and post-development conditions for a given storm frequency X (i.e., 100-year storm event) for a certain time period Z (i.e., 24-hours). The storage volume within the detention facility would be required to occupy the excess runoff volume and the volume required to detain this excess volume for the desired time period. See Figure 7-3.

Policy modification alternative #5, Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation and control peak discharge rates:

- This alternative would require detaining the excess runoff volume difference between the pre-development and post-development conditions for a given storm frequency X (i.e., 100-year storm event) and release the post-development peak flow rates for the X-year storm event to the pre-development peak flow rates. The storage volume within the detention facility would be required to occupy the excess runoff volume and the volume required to release the post-development peak flow to the pre-development peak flow rates. See Figure 7-4.

Policy modification alternative #6, Detain the excess 24-hour, X-year storm rainfall runoff until Z-time and control peak discharge rates:

- This alternative would require detaining the excess runoff volume difference between the pre-development and post-development conditions for a given storm frequency X (i.e., 100-year storm event) for a certain time period Z (i.e., 24-hours). The storage volume within the detention facility would be required to occupy the excess runoff volume, the volume required to detain this excess volume for the desired time period and the volume required to release the post-development peak flow to the pre-development peak flow rates. See Figure 7-5.

Table 7-2. Alternative Pros and Cons

Policy Option	Pros	Cons
1	Easiest approach	Results in increased downstream volume, increased flow elevations and increased peak discharges.
2	Current practice, easy understanding for design community	Results in increased downstream volume, and increased flow elevations.
3	Excess runoff volume created from development is captured	Post-peak flow rates could be larger than the pre-rates (excess volume could be captured before peak flow is reached, excess volume may be less than required volume to control peak). Larger post-runoff volume could travel downstream sooner than pre-runoff volume.
4	More than excess runoff volume is captured at peak detention elevation (excess volume + drawdown volume)	Post-peak flow rate could be larger than the pre-rates (excess volume could be captured before peak flow is reached, excess volume may be less than required volume to control peak).
5	Excess volume is captured Peak discharge is controlled	Larger post- runoff volume could travel downstream sooner than pre- runoff volume (post- shape of hydrograph may have centroid sooner). If drawdown time is large, detention facilities could stay full for long periods of time.
6	Same Z-hour volume is released for pre- and post- conditions, and the post- peak flow rates will be equal to or lower than the pre- peak flow rates	Requires the most detention volume of the six options. Detention facilities will stay full for longer periods of time due to smaller outlet control devices.

Figure 7-1 Alternative #2 - Control Peak Flow Rates

Pros: Current Practice

Cons: Increased volume downstream,
Increased elevation downstream,
Increased discharge downstream

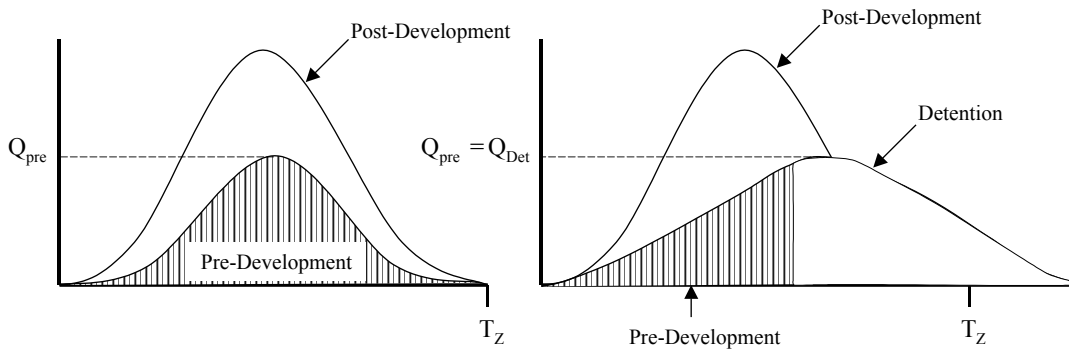


Figure 7-2 Alternative #3 - Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation

Pros: Excess volume is captured

Cons: Peak rates could be larger than existing

*(excess volume is captured before peak)

Larger volume could travel downstream sooner than existing

*(shape of hydrograph may have centroid sooner than existing conditions)

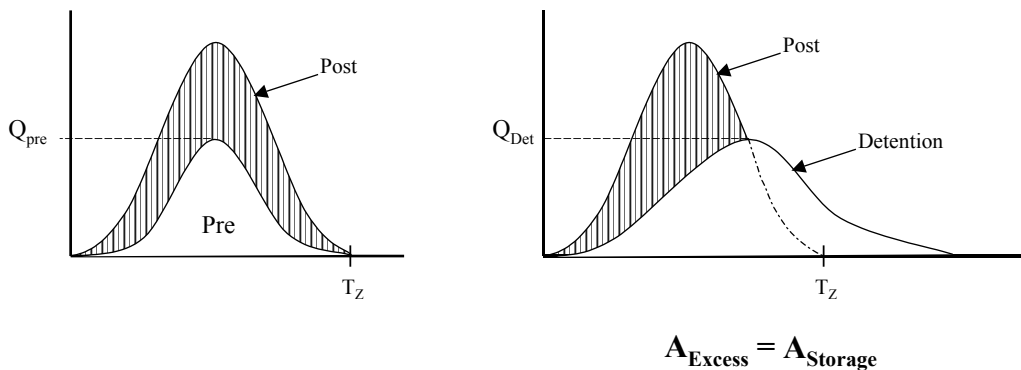


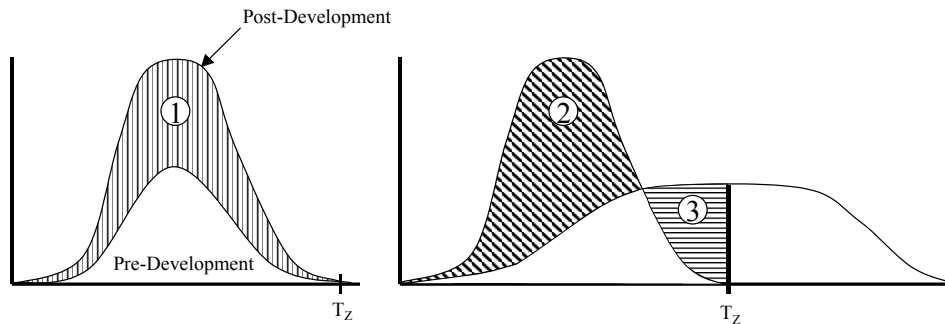
Figure 7-3 Alternative #4 - Detain excess 24-hour X-year rainfall until Z-time

Pros: At peak detention elevation there is more than excess runoff volume
(excess volume + drawdown)

Cons: Peak rates could be larger than existing

*(excess volume is captured before peak)

Excess volume may be less than volume required to control peak



$$A_1 = A_2 - A_3$$

$$A_{\text{Excess}} + A_{\text{Drawdown}} = A_{\text{Storage}}$$

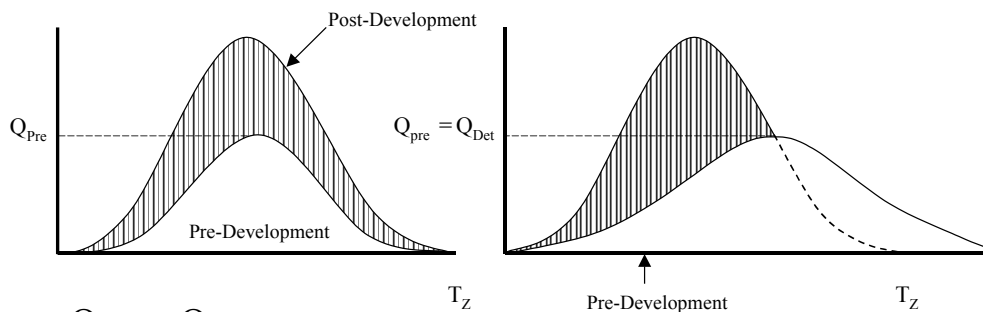
Figure 7-4 Alternative #5 - Detain excess 24-hour X-year at peak detention elevation and control peak discharge

Pros: Excess runoff volume is captured
Peak discharge is controlled

Cons: Larger volume could travel downstream sooner than existing

*(Shape of hydrograph may have centroid sooner)

If drawdown time is large, pond stays full

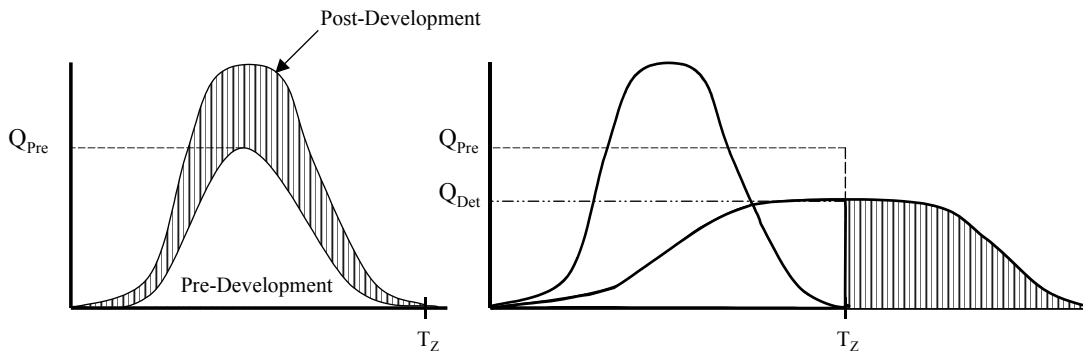


$$Q_{\text{Det}} = Q_{\text{Pre}}$$

$$A_{\text{Storage}} < A_{\text{Excess}}$$

Figure 7-5 Alternative #6 Detain excess 24-hour X-year until Z-time and control peak discharge

- Pros:** About the same X-hour volume is released for pre- and post- conditions
Peak discharge will be lower than or equal to existing peak flows
- Cons:** Requires more detention volume
Ponds may stay full longer due to small outlet devices



Using the ICPR computer model, different detention policy options were applied to future land use conditions for sub-basins located upstream of Bees Ferry Road to determine the resulting impacts on future flood elevations. Changes that were made to the ICPR model to simulate these control options are as follows:

- **Peak Rate Controls:** The future runoff hydrographs were limited to the existing conditions peak rates for each of the storm events.
- **Volume Controls:** The increased volume of runoff from each sub-basin was determined for each storm event. Storage was added to the sub-basin node to account for this volume increase for each storm event. This was done by providing additional storage volume equal to the given year storm event volume increase below the existing water surface elevation for that given year storm event. (i.e., the increase in volume for the 2-year event was created below the existing 2-year water surface elevation for that node).
- **Volume Time Controls:** The volume of runoff at 24-hours was determined for each storm event under existing conditions. The future runoff hydrographs were limited to a discharge rate that would produce the same volume at a time period of 24-hours. A holding period of 24-hours was used due to the fact that the time to peak in the vicinity of the railroad was approximately 25 hours.

Results from the modeled detention options are shown in [Table 7-3](#).

Table 7-3. Policy Modification Alternatives and Future Flooding Impacts

Policy Modification Alternative	Number of Finish Floors Inundated Per Condition				
	2-year	10-year	25-year	50-year	100-year
Houses					
Existing Conditions	0	2	8	15	23
Alt #1 –No Controls	0	4	9	19	24
Alt #2 –Peak Controls	0	3	9	18	24
Alt #3 –Volume Controls	0	2	9	17	24
Alt #6 –Peak and Volume Time Control	0	2 or less	8	15	23
Townhouse Units					
Existing Conditions	0	0	22	32	32
Alt #1 –No Controls	0	22	32	32	32
Alt #2 –Peak Controls	0	10	32	32	32
Alt #3 –Volume Controls	0	4	32	32	32
Alt #6 –Peak and Volume Time Control	0	0	22 or less	32	32

7.3 PROPOSED DETENTION REQUIREMENTS

Based on the results of the computer model simulations it is recommended that detention policy alternative number six be implemented for future development. This alternative was selected because it provides the most protection against flooding for the future land use conditions as shown in [Table 7-3](#). This alternative gives developers the freedom to develop at any impervious density while maintaining no flooding impacts to downstream properties.

Figures 7-6, 7-7, 7-8, and 7-9 show existing stage hydrographs at several locations upstream of the railroad. The peak stages at these locations occur between hours 21 to 25 depending on the location and remain near peak stage for approximately three to six hours. Therefore, it is recommended that the time period for pre-volume release control be set to 24-hours. This should prevent any excess runoff volume due to new development from traveling downstream until after the peak stage at the railroad has begun to reside. It is also recommended that all storm events up to the 100-year storm event should be controlled for both excess volume and peak rates.

Therefore, the recommended detention standard shall require permanent storm water management systems, associated with new development, to be designed and constructed to maintain the post-development peak flow rates at or below the pre-development peak flow rates; and to detain the excess runoff volume difference between the pre-development and post-development conditions for the design storms having a duration of 24-hours and frequencies of 2-, 10-, 25-, 50- and 100- years for a time period of 24-hours. Tolerances for the 25-, and 50- year storm event peak flow rates will be plus or minus 10 percent. All other post-development peak flow rates must be at or below the pre-development peak flow rates. Detention facilities meeting these standards must be designed and constructed to contain the excess volume for the 24-hour period and the volume required to release the post development peak flow at or below the pre-development peak flow rates.

Figure 7-6

Figure 7-7

Figure 7-8

Figure 7-9

SECTION 8 CHURCH CREEK ICPR MODEL RESULTS

8.1 HYDROLOGIC RESULTS

8.2 HYDRAULIC RESULTS

Appendix A -- Bibliography

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Appendix B -- ICPR Input Files (Existing Condition)

Hard Copy Files

Appendix C – Calculations and Additional Data

Structure Flooding Results

Benefit to Cost Output

Construction Cost Estimates

Rainfall Data

Tidal Information

Appendix E – ICPR Network

Appendix F – Floodplain Boundary Map

Figure 7-6 - Node A120 (Upstream of Railroad)

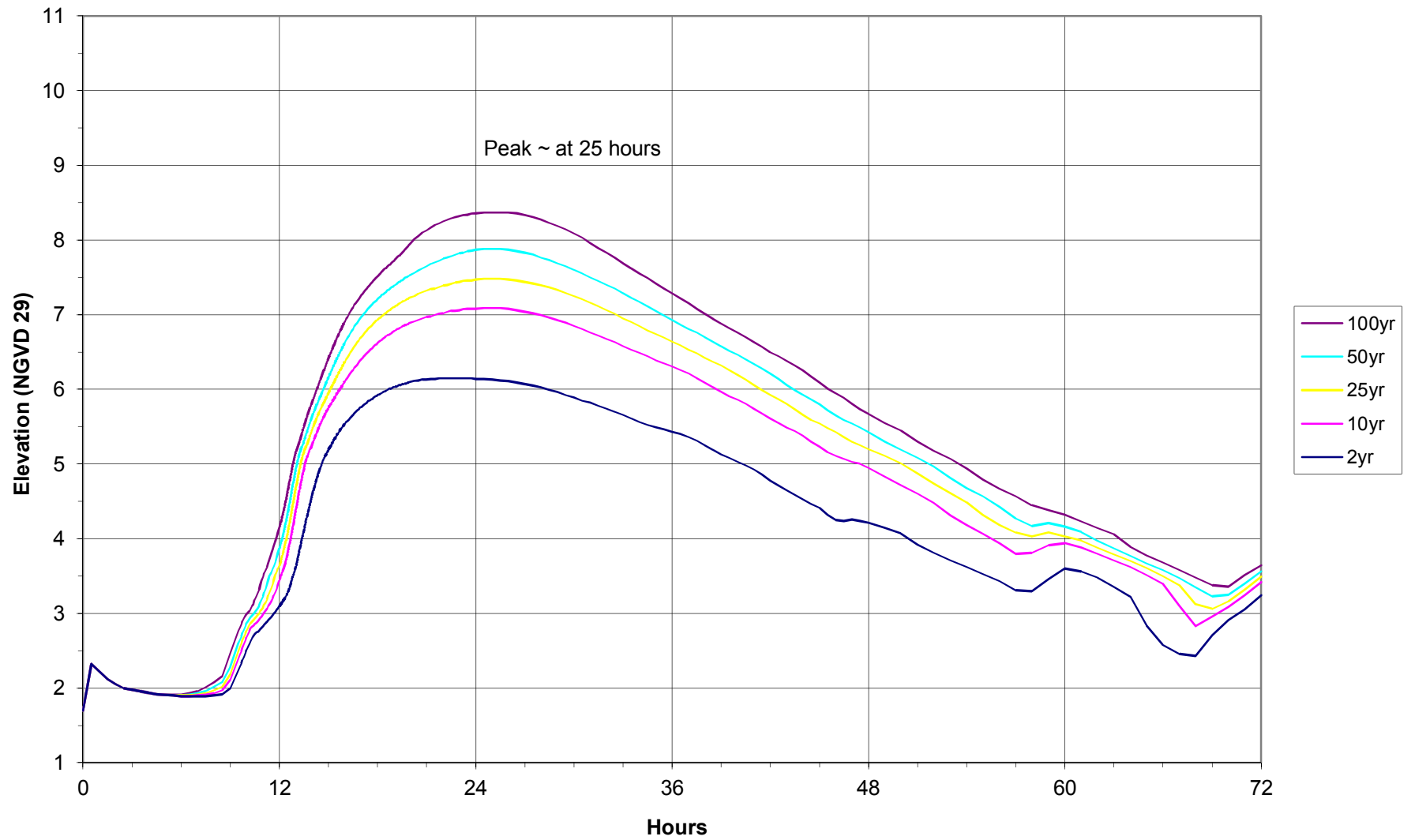


Figure 7-7 - Node B020 (Upstream of Bees Ferry Road - NE)

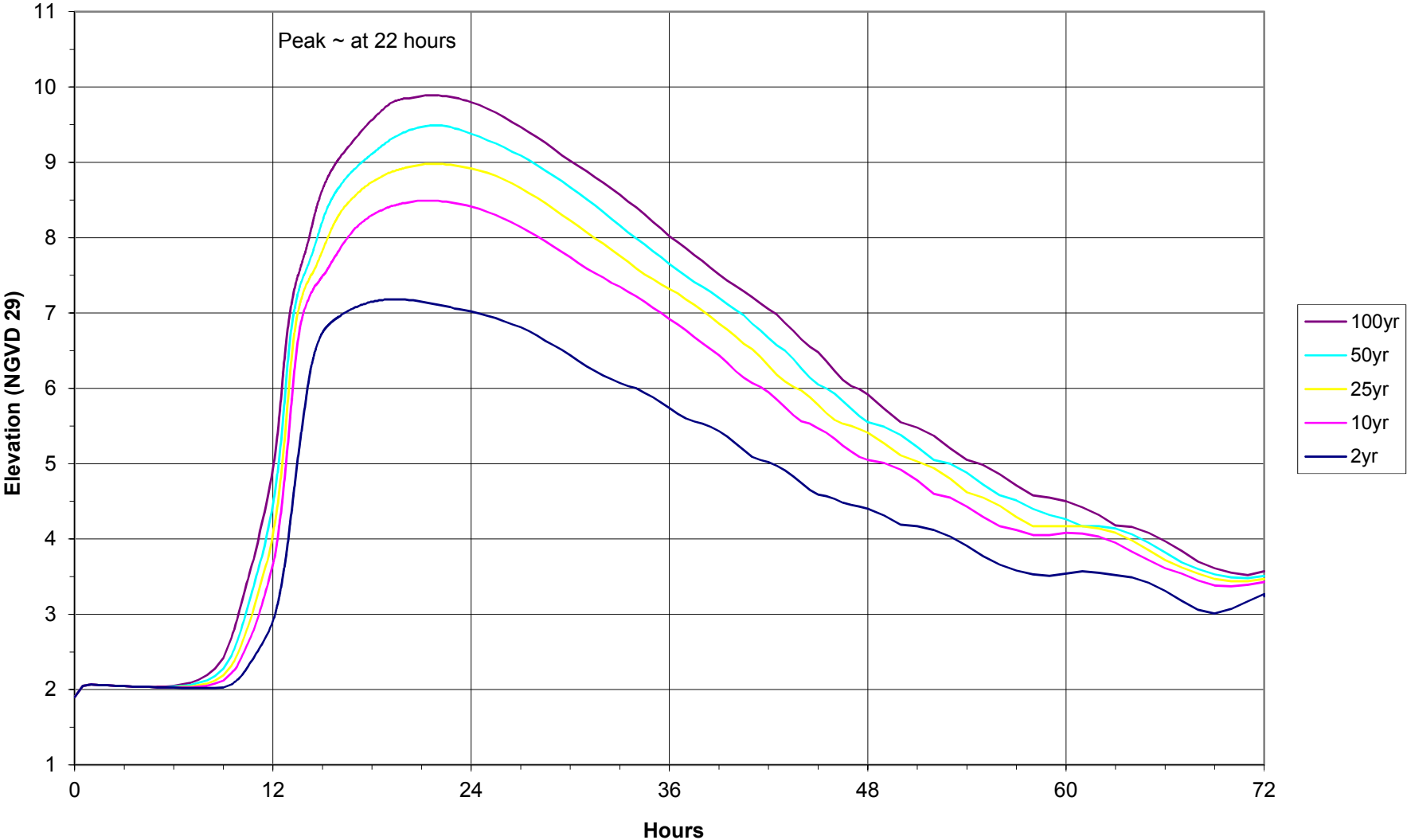


Figure 7-8 - Node B160 (Above Hickory Farms)

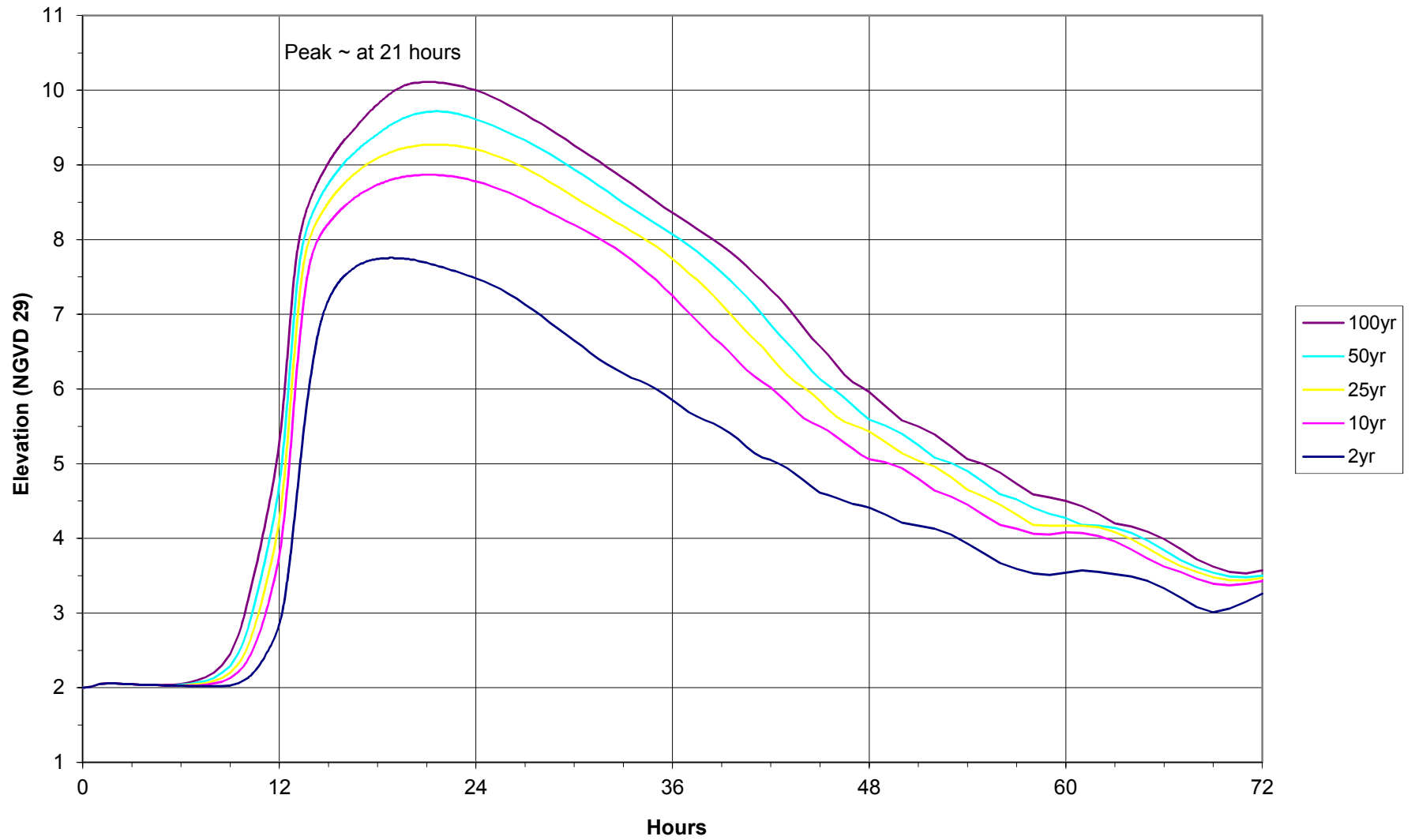
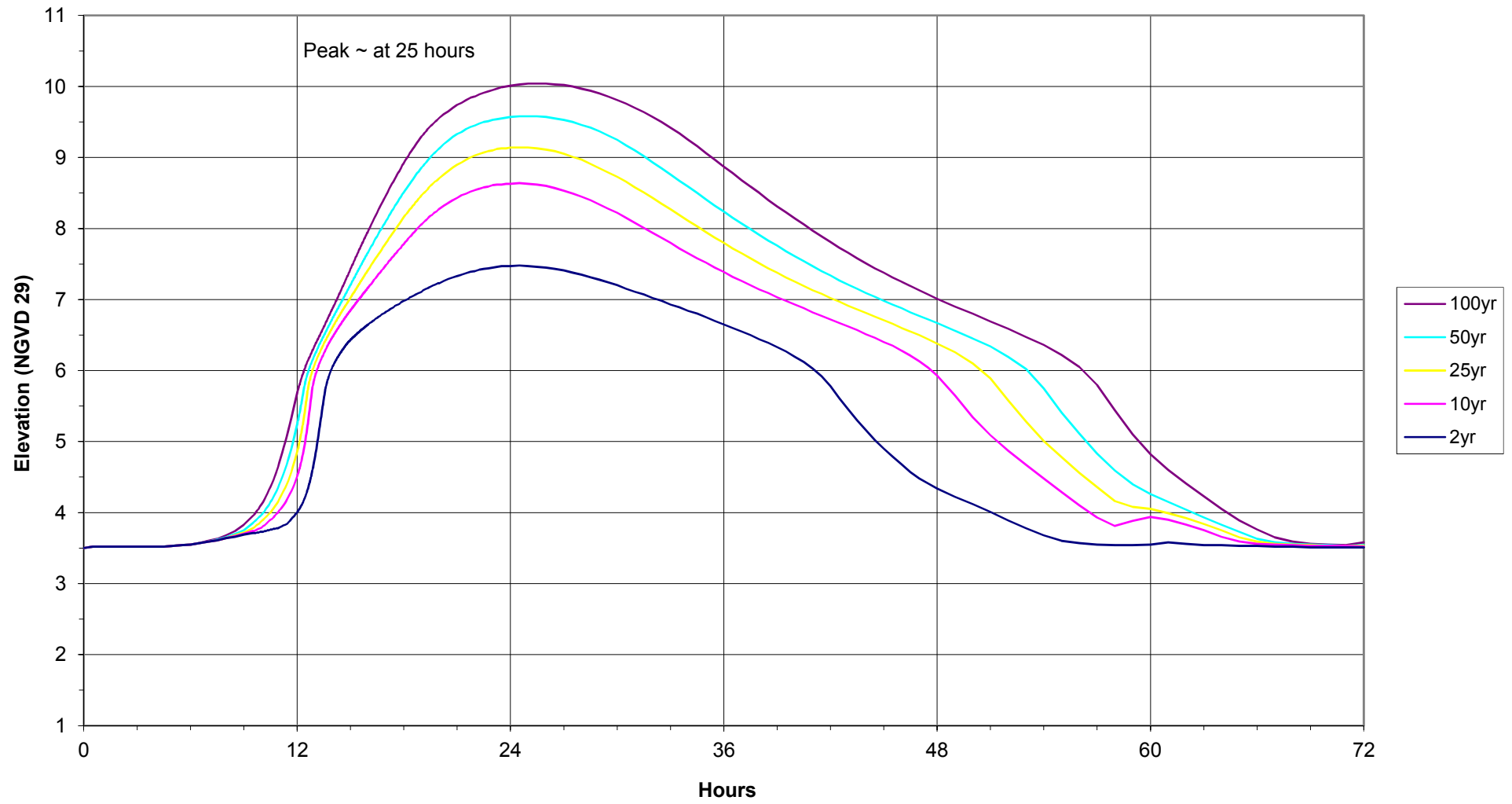


Figure 7-9 - Node G020 (Upstream of Bees Ferry Road - SW)



	2yr	10yr	25yr	50yr	100yr
0	1.7	1.7	1.7	1.7	1.7
0.5	2.32	2.32	2.32	2.32	2.32
1	2.22	2.22	2.22	2.22	2.22
1.5	2.12	2.12	2.12	2.12	2.12
2	2.05	2.05	2.05	2.05	2.05
2.5	2	2	2	2	2
3	1.98	1.98	1.98	1.98	1.98
3.5	1.96	1.96	1.96	1.96	1.96
4	1.94	1.94	1.94	1.94	1.94
4.5	1.92	1.92	1.92	1.92	1.92
5	1.91	1.91	1.91	1.91	1.91
5.5	1.9	1.9	1.9	1.9	1.91
6	1.89	1.89	1.9	1.9	1.91
6.5	1.89	1.89	1.9	1.91	1.93
7	1.89	1.9	1.91	1.93	1.96
7.5	1.89	1.91	1.93	1.96	2.01
8	1.9	1.93	1.97	2.02	2.08
8.5	1.92	1.97	2.02	2.08	2.16
9	2	2.11	2.19	2.28	2.47
9.5	2.24	2.4	2.5	2.6	2.77
9.583	2.29	2.45	2.55	2.65	2.81
9.667	2.33	2.49	2.6	2.69	2.86
9.75	2.38	2.54	2.64	2.74	2.9
9.834	2.42	2.59	2.69	2.78	2.94
9.917	2.47	2.64	2.73	2.83	2.97
10	2.51	2.68	2.77	2.87	2.99
10.084	2.55	2.72	2.81	2.9	3.01
10.167	2.59	2.76	2.85	2.93	3.03
10.25	2.63	2.8	2.87	2.95	3.06
10.334	2.67	2.82	2.89	2.97	3.1
10.417	2.7	2.84	2.91	2.99	3.13
10.5	2.72	2.86	2.93	3.01	3.18
10.584	2.74	2.87	2.95	3.04	3.22
10.667	2.75	2.89	2.98	3.07	3.27
10.75	2.77	2.92	3	3.1	3.32
10.834	2.79	2.94	3.03	3.14	3.38
10.917	2.81	2.96	3.05	3.19	3.44
11	2.83	2.99	3.08	3.23	3.49
11.084	2.85	3.01	3.12	3.28	3.54
11.167	2.87	3.04	3.15	3.33	3.58
11.25	2.89	3.07	3.19	3.39	3.62
11.334	2.91	3.1	3.24	3.45	3.67
11.417	2.93	3.13	3.29	3.51	3.73
11.5	2.95	3.16	3.34	3.55	3.79
11.584	2.98	3.2	3.39	3.6	3.85
11.667	3	3.24	3.45	3.63	3.9
11.75	3.02	3.28	3.51	3.68	3.96
11.834	3.05	3.33	3.56	3.75	4.02
11.917	3.07	3.38	3.6	3.81	4.08
12	3.1	3.44	3.64	3.87	4.14
12.017	3.1	3.45	3.65	3.88	4.16
12.034	3.11	3.46	3.66	3.9	4.17
12.05	3.11	3.47	3.67	3.91	4.19
12.067	3.12	3.48	3.68	3.92	4.2

12.084	3.12	3.5	3.69	3.93	4.22
12.1	3.13	3.51	3.7	3.94	4.23
12.117	3.13	3.52	3.72	3.96	4.24
12.134	3.14	3.53	3.73	3.97	4.26
12.15	3.14	3.54	3.75	3.98	4.27
12.167	3.15	3.55	3.76	4	4.29
12.184	3.15	3.56	3.78	4.01	4.3
12.2	3.16	3.57	3.79	4.03	4.32
12.217	3.17	3.58	3.8	4.04	4.33
12.234	3.17	3.59	3.82	4.06	4.35
12.25	3.18	3.6	3.83	4.07	4.36
12.267	3.18	3.61	3.85	4.09	4.38
12.284	3.19	3.62	3.86	4.1	4.39
12.3	3.19	3.63	3.88	4.12	4.41
12.317	3.2	3.64	3.89	4.13	4.43
12.334	3.2	3.65	3.91	4.15	4.44
12.35	3.21	3.66	3.92	4.17	4.46
12.367	3.22	3.67	3.94	4.19	4.48
12.384	3.22	3.68	3.95	4.2	4.5
12.4	3.23	3.7	3.97	4.22	4.51
12.417	3.24	3.72	3.98	4.24	4.53
12.434	3.24	3.73	4	4.26	4.55
12.45	3.25	3.75	4.02	4.28	4.57
12.467	3.26	3.77	4.03	4.29	4.59
12.484	3.27	3.78	4.05	4.31	4.61
12.5	3.27	3.8	4.07	4.33	4.63
12.517	3.28	3.82	4.08	4.35	4.65
12.534	3.29	3.83	4.1	4.37	4.67
12.55	3.3	3.85	4.12	4.38	4.68
12.567	3.31	3.87	4.14	4.4	4.7
12.584	3.32	3.89	4.16	4.42	4.72
12.6	3.33	3.9	4.18	4.44	4.74
12.617	3.34	3.92	4.2	4.46	4.76
12.634	3.35	3.94	4.22	4.48	4.78
12.65	3.37	3.95	4.24	4.5	4.8
12.667	3.38	3.97	4.26	4.52	4.81
12.684	3.39	3.99	4.28	4.54	4.83
12.7	3.4	4.01	4.3	4.56	4.85
12.717	3.41	4.03	4.32	4.58	4.87
12.734	3.43	4.05	4.34	4.6	4.89
12.75	3.44	4.06	4.36	4.63	4.9
12.767	3.45	4.08	4.38	4.65	4.92
12.784	3.46	4.1	4.4	4.67	4.94
12.8	3.48	4.12	4.42	4.69	4.96
12.817	3.49	4.14	4.44	4.71	4.98
12.834	3.5	4.16	4.46	4.73	5
12.85	3.51	4.18	4.48	4.75	5.01
12.867	3.53	4.2	4.5	4.76	5.03
12.884	3.54	4.23	4.52	4.78	5.05
12.9	3.55	4.25	4.54	4.8	5.06
12.917	3.56	4.27	4.56	4.82	5.08
12.934	3.57	4.29	4.59	4.84	5.09
12.95	3.58	4.31	4.61	4.86	5.11
12.967	3.6	4.33	4.63	4.88	5.12
12.984	3.61	4.35	4.65	4.9	5.14

13	3.62	4.37	4.67	4.92	5.15
13.017	3.63	4.39	4.69	4.94	5.17
13.034	3.64	4.41	4.71	4.96	5.18
13.05	3.66	4.43	4.73	4.97	5.19
13.067	3.68	4.45	4.74	4.99	5.2
13.084	3.69	4.47	4.76	5.01	5.21
13.1	3.71	4.49	4.78	5.03	5.22
13.117	3.73	4.51	4.8	5.05	5.23
13.134	3.75	4.53	4.82	5.06	5.24
13.15	3.76	4.56	4.84	5.07	5.25
13.167	3.78	4.58	4.86	5.08	5.26
13.184	3.8	4.6	4.88	5.1	5.27
13.2	3.81	4.62	4.89	5.11	5.28
13.217	3.83	4.64	4.91	5.13	5.29
13.234	3.85	4.66	4.93	5.14	5.3
13.25	3.87	4.67	4.95	5.16	5.32
13.267	3.89	4.69	4.97	5.17	5.33
13.284	3.9	4.71	4.99	5.18	5.34
13.3	3.92	4.73	5	5.2	5.36
13.317	3.93	4.75	5.02	5.2	5.37
13.334	3.95	4.76	5.04	5.21	5.38
13.35	3.97	4.78	5.05	5.22	5.39
13.367	3.98	4.8	5.06	5.23	5.41
13.384	4	4.81	5.07	5.24	5.42
13.4	4.01	4.83	5.09	5.24	5.43
13.417	4.03	4.85	5.1	5.25	5.44
13.434	4.05	4.87	5.11	5.26	5.46
13.45	4.06	4.88	5.13	5.27	5.47
13.467	4.08	4.9	5.14	5.28	5.48
13.484	4.1	4.92	5.15	5.29	5.49
13.5	4.11	4.93	5.16	5.31	5.5
13.517	4.13	4.95	5.17	5.32	5.52
13.534	4.14	4.97	5.19	5.33	5.53
13.55	4.16	4.98	5.2	5.34	5.54
13.567	4.18	5	5.2	5.35	5.55
13.584	4.2	5.02	5.21	5.37	5.56
13.6	4.21	5.03	5.22	5.38	5.57
13.617	4.23	5.04	5.23	5.39	5.59
13.634	4.25	5.05	5.23	5.4	5.6
13.65	4.26	5.07	5.24	5.41	5.61
13.667	4.28	5.08	5.25	5.42	5.62
13.684	4.29	5.09	5.26	5.43	5.63
13.7	4.31	5.1	5.27	5.45	5.64
13.717	4.32	5.11	5.28	5.46	5.66
13.734	4.34	5.12	5.29	5.47	5.67
13.75	4.35	5.13	5.3	5.48	5.68
13.767	4.37	5.14	5.31	5.49	5.69
13.784	4.38	5.15	5.32	5.5	5.7
13.8	4.4	5.16	5.33	5.51	5.71
13.817	4.41	5.17	5.34	5.52	5.72
13.834	4.43	5.18	5.35	5.53	5.73
13.85	4.44	5.19	5.36	5.54	5.74
13.867	4.46	5.2	5.38	5.55	5.75
13.884	4.47	5.21	5.39	5.56	5.76
13.9	4.49	5.21	5.4	5.58	5.77

13.917	4.5	5.22	5.41	5.59	5.78
13.934	4.52	5.22	5.42	5.6	5.79
13.95	4.53	5.23	5.43	5.61	5.8
13.967	4.55	5.24	5.44	5.62	5.81
13.984	4.56	5.25	5.45	5.63	5.82
14	4.58	5.26	5.46	5.64	5.83
14.017	4.6	5.27	5.47	5.65	5.84
14.034	4.61	5.28	5.48	5.66	5.85
14.05	4.62	5.29	5.49	5.67	5.86
14.067	4.64	5.3	5.5	5.68	5.87
14.084	4.65	5.31	5.51	5.69	5.88
14.1	4.67	5.32	5.52	5.7	5.89
14.117	4.68	5.33	5.53	5.71	5.9
14.134	4.69	5.34	5.54	5.71	5.91
14.15	4.7	5.35	5.55	5.72	5.92
14.167	4.72	5.36	5.56	5.73	5.93
14.184	4.73	5.37	5.56	5.74	5.94
14.2	4.74	5.38	5.57	5.75	5.95
14.217	4.75	5.38	5.58	5.76	5.96
14.234	4.77	5.39	5.59	5.77	5.97
14.25	4.78	5.4	5.6	5.78	5.98
14.267	4.79	5.41	5.61	5.79	5.99
14.284	4.8	5.42	5.62	5.79	6
14.3	4.82	5.43	5.63	5.8	6.01
14.317	4.83	5.44	5.64	5.81	6.02
14.334	4.84	5.45	5.65	5.82	6.03
14.35	4.85	5.46	5.66	5.83	6.04
14.367	4.87	5.47	5.66	5.84	6.05
14.384	4.88	5.48	5.67	5.85	6.06
14.4	4.89	5.48	5.68	5.86	6.07
14.417	4.9	5.49	5.69	5.86	6.08
14.434	4.91	5.5	5.7	5.87	6.09
14.45	4.92	5.51	5.7	5.88	6.1
14.467	4.93	5.52	5.71	5.89	6.11
14.484	4.94	5.53	5.72	5.9	6.12
14.5	4.95	5.53	5.73	5.91	6.13
14.517	4.96	5.54	5.74	5.91	6.14
14.534	4.97	5.55	5.74	5.92	6.15
14.55	4.98	5.56	5.75	5.93	6.16
14.567	4.99	5.57	5.76	5.94	6.17
14.584	5	5.58	5.77	5.95	6.18
14.6	5.01	5.58	5.77	5.96	6.19
14.617	5.02	5.59	5.78	5.97	6.2
14.634	5.03	5.6	5.79	5.97	6.21
14.65	5.04	5.61	5.8	5.98	6.22
14.667	5.05	5.61	5.8	5.99	6.23
14.684	5.06	5.62	5.81	6	6.24
14.7	5.06	5.63	5.82	6.01	6.25
14.717	5.07	5.64	5.83	6.02	6.26
14.734	5.08	5.64	5.83	6.03	6.26
14.75	5.09	5.65	5.84	6.03	6.27
14.767	5.1	5.66	5.85	6.04	6.28
14.784	5.11	5.67	5.86	6.05	6.29
14.8	5.11	5.67	5.86	6.06	6.3
14.817	5.12	5.68	5.87	6.07	6.31

14.834	5.12	5.69	5.88	6.08	6.32
14.85	5.13	5.69	5.89	6.09	6.33
14.867	5.13	5.7	5.89	6.09	6.34
14.884	5.14	5.71	5.9	6.1	6.35
14.9	5.15	5.71	5.91	6.11	6.36
14.917	5.16	5.72	5.91	6.12	6.37
14.934	5.17	5.73	5.92	6.13	6.38
14.95	5.17	5.73	5.93	6.14	6.39
14.967	5.18	5.74	5.94	6.15	6.4
14.984	5.19	5.75	5.94	6.15	6.41
15	5.2	5.75	5.95	6.16	6.42
15.017	5.2	5.76	5.96	6.17	6.43
15.034	5.21	5.77	5.97	6.18	6.44
15.05	5.21	5.77	5.97	6.19	6.44
15.067	5.22	5.78	5.98	6.2	6.45
15.084	5.22	5.79	5.99	6.2	6.46
15.1	5.23	5.79	5.99	6.21	6.47
15.117	5.24	5.8	6	6.22	6.48
15.134	5.24	5.8	6.01	6.23	6.49
15.15	5.25	5.81	6.02	6.24	6.5
15.167	5.26	5.82	6.02	6.25	6.51
15.184	5.26	5.82	6.03	6.25	6.52
15.2	5.27	5.83	6.04	6.26	6.53
15.217	5.28	5.83	6.05	6.27	6.53
15.234	5.28	5.84	6.05	6.28	6.54
15.25	5.29	5.85	6.06	6.29	6.55
15.267	5.3	5.85	6.07	6.3	6.56
15.284	5.3	5.86	6.07	6.3	6.57
15.3	5.31	5.86	6.08	6.31	6.58
15.317	5.32	5.87	6.09	6.32	6.59
15.334	5.32	5.88	6.1	6.33	6.6
15.35	5.33	5.88	6.1	6.34	6.6
15.367	5.34	5.89	6.11	6.34	6.61
15.384	5.34	5.89	6.12	6.35	6.62
15.4	5.35	5.9	6.13	6.36	6.63
15.417	5.35	5.91	6.13	6.37	6.64
15.434	5.36	5.91	6.14	6.38	6.65
15.45	5.37	5.92	6.15	6.38	6.66
15.467	5.37	5.92	6.15	6.39	6.66
15.484	5.38	5.93	6.16	6.4	6.67
15.5	5.38	5.94	6.17	6.41	6.68
15.517	5.39	5.94	6.17	6.41	6.69
15.534	5.4	5.95	6.18	6.42	6.7
15.55	5.4	5.95	6.19	6.43	6.71
15.567	5.41	5.96	6.2	6.44	6.71
15.584	5.41	5.96	6.2	6.44	6.72
15.6	5.42	5.97	6.21	6.45	6.73
15.617	5.42	5.98	6.22	6.46	6.74
15.634	5.43	5.98	6.22	6.47	6.75
15.65	5.43	5.99	6.23	6.47	6.75
15.667	5.44	5.99	6.24	6.48	6.76
15.684	5.45	6	6.24	6.49	6.77
15.7	5.45	6	6.25	6.5	6.78
15.717	5.46	6.01	6.26	6.5	6.78
15.734	5.46	6.02	6.26	6.51	6.79

15.75	5.47	6.02	6.27	6.52	6.8
15.767	5.47	6.03	6.28	6.53	6.81
15.784	5.48	6.03	6.28	6.53	6.81
15.8	5.48	6.04	6.29	6.54	6.82
15.817	5.49	6.04	6.3	6.55	6.83
15.834	5.49	6.05	6.3	6.56	6.84
15.85	5.5	6.06	6.31	6.56	6.84
15.867	5.5	6.06	6.32	6.57	6.85
15.884	5.51	6.07	6.32	6.58	6.86
15.9	5.51	6.07	6.33	6.58	6.87
15.917	5.51	6.08	6.34	6.59	6.87
15.934	5.52	6.08	6.34	6.6	6.88
15.95	5.52	6.09	6.35	6.6	6.89
15.967	5.53	6.1	6.36	6.61	6.89
15.984	5.53	6.1	6.36	6.62	6.9
16	5.54	6.11	6.37	6.63	6.91
16.084	5.56	6.13	6.4	6.66	6.94
16.167	5.58	6.16	6.43	6.69	6.97
16.25	5.6	6.19	6.46	6.72	7.01
16.334	5.62	6.21	6.49	6.75	7.04
16.417	5.64	6.24	6.52	6.78	7.07
16.5	5.66	6.26	6.55	6.81	7.1
16.584	5.68	6.29	6.57	6.84	7.13
16.667	5.7	6.31	6.6	6.87	7.15
16.75	5.72	6.33	6.63	6.89	7.18
16.834	5.73	6.36	6.65	6.92	7.21
16.917	5.75	6.38	6.68	6.94	7.23
17	5.76	6.4	6.7	6.97	7.26
17.084	5.78	6.42	6.72	6.99	7.28
17.167	5.79	6.44	6.74	7.01	7.3
17.25	5.81	6.46	6.77	7.03	7.33
17.334	5.82	6.48	6.79	7.06	7.35
17.417	5.84	6.5	6.81	7.08	7.37
17.5	5.85	6.52	6.83	7.1	7.39
17.584	5.86	6.54	6.84	7.12	7.42
17.667	5.87	6.55	6.86	7.14	7.44
17.75	5.89	6.57	6.88	7.16	7.46
17.834	5.9	6.59	6.9	7.17	7.48
17.917	5.91	6.6	6.92	7.19	7.5
18	5.92	6.62	6.93	7.21	7.51
18.084	5.93	6.64	6.95	7.23	7.53
18.167	5.94	6.65	6.96	7.24	7.55
18.25	5.95	6.66	6.98	7.26	7.57
18.334	5.96	6.68	6.99	7.27	7.59
18.417	5.97	6.69	7.01	7.29	7.61
18.5	5.98	6.71	7.02	7.3	7.62
18.584	5.99	6.72	7.04	7.32	7.64
18.667	6	6.73	7.05	7.33	7.66
18.75	6.01	6.74	7.06	7.35	7.67
18.834	6.01	6.75	7.08	7.36	7.69
18.917	6.02	6.77	7.09	7.37	7.71
19	6.03	6.78	7.1	7.39	7.72
19.084	6.04	6.79	7.11	7.4	7.74
19.167	6.04	6.8	7.12	7.41	7.76
19.25	6.05	6.81	7.14	7.43	7.78

19.334	6.06	6.82	7.15	7.44	7.79
19.417	6.06	6.83	7.16	7.45	7.81
19.5	6.07	6.84	7.17	7.46	7.83
19.584	6.07	6.85	7.18	7.48	7.85
19.667	6.08	6.86	7.19	7.49	7.87
19.75	6.08	6.86	7.2	7.5	7.89
19.834	6.09	6.87	7.21	7.51	7.91
19.917	6.09	6.88	7.22	7.52	7.93
20	6.1	6.89	7.23	7.53	7.95
20.25	6.11	6.91	7.25	7.56	8.01
20.5	6.12	6.93	7.28	7.59	8.05
20.75	6.13	6.95	7.3	7.62	8.1
21	6.13	6.97	7.32	7.65	8.13
21.25	6.14	6.98	7.34	7.68	8.17
21.5	6.14	7	7.35	7.7	8.2
21.75	6.15	7.01	7.37	7.72	8.22
22	6.15	7.02	7.39	7.75	8.25
22.25	6.15	7.04	7.4	7.76	8.27
22.5	6.15	7.05	7.41	7.78	8.29
22.75	6.15	7.05	7.43	7.8	8.3
23	6.15	7.06	7.44	7.82	8.32
23.25	6.15	7.07	7.45	7.83	8.33
23.5	6.15	7.08	7.46	7.85	8.34
23.75	6.15	7.08	7.46	7.86	8.35
24	6.14	7.08	7.47	7.87	8.36
24.5	6.14	7.09	7.48	7.88	8.37
25	6.13	7.09	7.48	7.88	8.37
25.5	6.12	7.09	7.48	7.88	8.37
26	6.11	7.08	7.47	7.87	8.37
26.5	6.09	7.06	7.46	7.85	8.36
27	6.07	7.04	7.44	7.83	8.33
27.5	6.05	7.02	7.42	7.8	8.3
28	6.02	6.99	7.39	7.76	8.27
28.5	5.99	6.96	7.36	7.73	8.23
29	5.96	6.92	7.33	7.69	8.19
29.5	5.92	6.89	7.29	7.65	8.14
30	5.89	6.85	7.25	7.6	8.09
30.5	5.85	6.81	7.21	7.55	8.03
31	5.82	6.76	7.16	7.5	7.96
31.5	5.78	6.72	7.11	7.45	7.89
32	5.74	6.67	7.06	7.4	7.83
32.5	5.7	6.63	7.01	7.35	7.76
33	5.66	6.58	6.95	7.29	7.69
33.5	5.61	6.53	6.9	7.23	7.62
34	5.56	6.49	6.85	7.17	7.55
34.5	5.52	6.44	6.79	7.11	7.49
35	5.49	6.39	6.74	7.05	7.42
35.5	5.46	6.35	6.69	6.99	7.35
36	5.43	6.31	6.64	6.93	7.29
36.5	5.4	6.26	6.59	6.87	7.22
37	5.36	6.21	6.53	6.81	7.15
37.5	5.31	6.15	6.48	6.76	7.08
38	5.25	6.09	6.42	6.7	7.01
38.5	5.19	6.03	6.37	6.64	6.94
39	5.13	5.97	6.32	6.58	6.88

39.5	5.08	5.91	6.26	6.52	6.82
40	5.03	5.86	6.19	6.46	6.76
40.5	4.98	5.81	6.13	6.4	6.7
41	4.93	5.74	6.06	6.34	6.63
41.5	4.86	5.68	5.99	6.28	6.57
42	4.78	5.61	5.93	6.21	6.5
42.5	4.71	5.55	5.87	6.14	6.44
43	4.65	5.49	5.81	6.06	6.38
43.5	4.59	5.44	5.73	5.99	6.32
44	4.53	5.38	5.66	5.93	6.25
44.5	4.47	5.3	5.59	5.87	6.17
45	4.41	5.23	5.54	5.8	6.09
45.5	4.32	5.16	5.48	5.72	6.01
46	4.25	5.11	5.43	5.65	5.95
46.5	4.24	5.07	5.36	5.59	5.89
47	4.26	5.03	5.3	5.54	5.81
47.5	4.24	5	5.25	5.49	5.73
48	4.21	4.95	5.2	5.43	5.67
49	4.14	4.83	5.11	5.3	5.55
50	4.07	4.72	5.01	5.19	5.45
51	3.92	4.6	4.87	5.08	5.3
52	3.81	4.48	4.74	4.97	5.18
53	3.71	4.31	4.61	4.81	5.07
54	3.62	4.18	4.49	4.68	4.94
55	3.53	4.07	4.32	4.57	4.79
56	3.43	3.94	4.18	4.43	4.67
57	3.31	3.8	4.08	4.27	4.57
58	3.3	3.81	4.03	4.17	4.45
59	3.46	3.91	4.08	4.21	4.38
60	3.6	3.94	4.03	4.16	4.32
61	3.56	3.88	3.97	4.09	4.23
62	3.48	3.8	3.88	3.97	4.14
63	3.36	3.71	3.79	3.87	4.06
64	3.22	3.62	3.7	3.77	3.89
65	2.84	3.51	3.61	3.67	3.78
66	2.58	3.4	3.5	3.58	3.68
67	2.46	3.1	3.38	3.47	3.58
68	2.43	2.83	3.12	3.35	3.48
69	2.71	2.96	3.06	3.23	3.38
70	2.91	3.09	3.16	3.25	3.36
71	3.05	3.24	3.32	3.4	3.51
72	3.24	3.42	3.49	3.56	3.64

	2yr	10yr	25yr	50yr	100yr
0	1.9	1.9	1.9	1.9	1.9
0.5	2.05	2.05	2.05	2.05	2.05
1	2.07	2.07	2.07	2.07	2.07
1.5	2.06	2.06	2.06	2.06	2.06
2	2.06	2.06	2.06	2.06	2.06
2.5	2.05	2.05	2.05	2.05	2.05
3	2.05	2.05	2.05	2.05	2.05
3.5	2.04	2.04	2.04	2.04	2.04
4	2.04	2.04	2.04	2.04	2.04
4.5	2.04	2.04	2.04	2.04	2.04
5	2.03	2.03	2.03	2.03	2.04
5.5	2.03	2.03	2.03	2.03	2.04
6	2.03	2.03	2.03	2.04	2.05
6.5	2.02	2.03	2.04	2.05	2.07
7	2.02	2.03	2.04	2.06	2.09
7.5	2.02	2.04	2.06	2.09	2.13
8	2.02	2.05	2.08	2.12	2.19
8.5	2.02	2.08	2.12	2.18	2.28
9	2.03	2.12	2.19	2.28	2.42
9.5	2.07	2.22	2.32	2.45	2.69
9.583	2.08	2.24	2.35	2.5	2.75
9.667	2.1	2.26	2.38	2.54	2.8
9.75	2.11	2.28	2.42	2.59	2.87
9.834	2.13	2.31	2.46	2.64	2.93
9.917	2.14	2.35	2.5	2.69	3
10	2.16	2.38	2.54	2.74	3.06
10.084	2.18	2.42	2.59	2.8	3.13
10.167	2.2	2.46	2.64	2.86	3.2
10.25	2.23	2.5	2.69	2.92	3.27
10.334	2.25	2.54	2.74	2.98	3.34
10.417	2.28	2.58	2.79	3.04	3.41
10.5	2.31	2.62	2.84	3.11	3.47
10.584	2.34	2.66	2.89	3.17	3.54
10.667	2.37	2.7	2.95	3.24	3.61
10.75	2.39	2.75	3	3.31	3.67
10.834	2.42	2.79	3.07	3.37	3.73
10.917	2.45	2.84	3.13	3.44	3.8
11	2.48	2.89	3.19	3.51	3.87
11.084	2.51	2.95	3.26	3.57	3.95
11.167	2.54	3	3.32	3.64	4.04
11.25	2.57	3.06	3.39	3.7	4.13
11.334	2.6	3.12	3.46	3.76	4.21
11.417	2.63	3.19	3.52	3.83	4.28
11.5	2.67	3.25	3.59	3.91	4.36
11.584	2.7	3.32	3.65	4	4.44
11.667	2.74	3.38	3.71	4.1	4.54
11.75	2.77	3.45	3.78	4.18	4.63
11.834	2.82	3.52	3.86	4.26	4.72
11.917	2.86	3.59	3.95	4.35	4.82
12	2.91	3.66	4.06	4.45	4.93
12.017	2.92	3.67	4.08	4.47	4.95
12.034	2.93	3.69	4.11	4.49	4.97
12.05	2.94	3.7	4.13	4.52	5
12.067	2.95	3.72	4.15	4.54	5.02

12.084	2.96	3.74	4.17	4.57	5.05
12.1	2.98	3.75	4.19	4.59	5.07
12.117	2.99	3.77	4.21	4.61	5.1
12.134	3	3.79	4.23	4.64	5.12
12.15	3.01	3.81	4.25	4.66	5.15
12.167	3.03	3.83	4.27	4.69	5.18
12.184	3.04	3.85	4.3	4.72	5.21
12.2	3.06	3.88	4.32	4.74	5.24
12.217	3.07	3.9	4.34	4.77	5.27
12.234	3.09	3.92	4.37	4.8	5.3
12.25	3.1	3.95	4.39	4.83	5.33
12.267	3.12	3.97	4.42	4.86	5.36
12.284	3.13	4	4.45	4.88	5.4
12.3	3.15	4.03	4.47	4.91	5.43
12.317	3.17	4.06	4.5	4.94	5.47
12.334	3.18	4.09	4.53	4.98	5.5
12.35	3.2	4.12	4.57	5.01	5.54
12.367	3.22	4.15	4.6	5.04	5.58
12.384	3.23	4.18	4.63	5.07	5.62
12.4	3.25	4.2	4.66	5.1	5.65
12.417	3.27	4.23	4.69	5.14	5.69
12.434	3.29	4.26	4.72	5.17	5.73
12.45	3.31	4.28	4.76	5.21	5.77
12.467	3.33	4.31	4.79	5.24	5.81
12.484	3.35	4.34	4.82	5.28	5.85
12.5	3.37	4.37	4.86	5.31	5.89
12.517	3.39	4.41	4.89	5.35	5.93
12.534	3.41	4.44	4.93	5.39	5.98
12.55	3.43	4.47	4.96	5.43	6.02
12.567	3.46	4.5	5	5.47	6.06
12.584	3.48	4.53	5.04	5.51	6.11
12.6	3.5	4.57	5.07	5.55	6.15
12.617	3.52	4.6	5.11	5.6	6.19
12.634	3.54	4.64	5.14	5.64	6.23
12.65	3.57	4.68	5.18	5.68	6.27
12.667	3.59	4.71	5.22	5.72	6.31
12.684	3.61	4.75	5.26	5.77	6.35
12.7	3.63	4.79	5.3	5.81	6.39
12.717	3.66	4.82	5.34	5.85	6.43
12.734	3.68	4.86	5.38	5.9	6.47
12.75	3.7	4.9	5.42	5.95	6.5
12.767	3.73	4.94	5.46	5.99	6.54
12.784	3.75	4.97	5.51	6.04	6.57
12.8	3.77	5.01	5.55	6.08	6.6
12.817	3.8	5.05	5.59	6.13	6.64
12.834	3.83	5.09	5.64	6.17	6.67
12.85	3.85	5.13	5.68	6.22	6.7
12.867	3.88	5.17	5.73	6.26	6.73
12.884	3.91	5.2	5.77	6.3	6.76
12.9	3.94	5.24	5.81	6.34	6.79
12.917	3.97	5.28	5.86	6.38	6.82
12.934	4	5.32	5.9	6.42	6.85
12.95	4.03	5.36	5.95	6.46	6.88
12.967	4.07	5.41	5.99	6.5	6.91
12.984	4.1	5.45	6.03	6.53	6.93

13	4.13	5.49	6.08	6.57	6.95
13.017	4.17	5.53	6.12	6.6	6.98
13.034	4.19	5.58	6.17	6.63	7
13.05	4.22	5.62	6.21	6.67	7.02
13.067	4.25	5.66	6.25	6.7	7.04
13.084	4.28	5.7	6.29	6.73	7.07
13.1	4.31	5.75	6.33	6.76	7.09
13.117	4.34	5.79	6.37	6.79	7.11
13.134	4.37	5.83	6.41	6.82	7.13
13.15	4.4	5.87	6.44	6.84	7.15
13.167	4.43	5.91	6.48	6.87	7.17
13.184	4.46	5.95	6.51	6.89	7.19
13.2	4.5	5.99	6.54	6.92	7.2
13.217	4.53	6.03	6.58	6.94	7.22
13.234	4.56	6.07	6.61	6.96	7.24
13.25	4.59	6.11	6.64	6.98	7.26
13.267	4.62	6.15	6.67	7	7.28
13.284	4.65	6.19	6.7	7.02	7.3
13.3	4.68	6.23	6.73	7.04	7.32
13.317	4.71	6.27	6.75	7.06	7.33
13.334	4.75	6.3	6.78	7.08	7.35
13.35	4.78	6.34	6.8	7.1	7.36
13.367	4.81	6.37	6.83	7.12	7.38
13.384	4.84	6.4	6.85	7.13	7.4
13.4	4.87	6.43	6.88	7.15	7.41
13.417	4.9	6.46	6.9	7.17	7.42
13.434	4.93	6.49	6.92	7.18	7.43
13.45	4.96	6.52	6.94	7.2	7.44
13.467	4.99	6.55	6.96	7.21	7.46
13.484	5.02	6.58	6.97	7.23	7.47
13.5	5.05	6.61	6.99	7.25	7.48
13.517	5.08	6.63	7.01	7.26	7.5
13.534	5.11	6.66	7.03	7.28	7.5
13.55	5.13	6.68	7.04	7.29	7.51
13.567	5.16	6.71	7.06	7.3	7.53
13.584	5.19	6.73	7.07	7.32	7.54
13.6	5.21	6.75	7.09	7.33	7.55
13.617	5.24	6.78	7.1	7.34	7.56
13.634	5.27	6.8	7.12	7.36	7.57
13.65	5.3	6.82	7.13	7.37	7.59
13.667	5.32	6.84	7.14	7.38	7.6
13.684	5.35	6.85	7.16	7.39	7.61
13.7	5.38	6.87	7.17	7.4	7.62
13.717	5.41	6.89	7.18	7.41	7.64
13.734	5.43	6.9	7.19	7.42	7.65
13.75	5.46	6.92	7.21	7.43	7.66
13.767	5.49	6.93	7.22	7.44	7.67
13.784	5.51	6.95	7.23	7.45	7.69
13.8	5.54	6.96	7.24	7.46	7.7
13.817	5.57	6.98	7.26	7.47	7.71
13.834	5.59	6.99	7.27	7.48	7.72
13.85	5.62	7	7.28	7.49	7.73
13.867	5.65	7.01	7.29	7.5	7.75
13.884	5.67	7.03	7.3	7.5	7.76
13.9	5.7	7.04	7.31	7.51	7.77

13.917	5.72	7.05	7.32	7.52	7.78
13.934	5.75	7.06	7.33	7.53	7.79
13.95	5.78	7.07	7.34	7.54	7.8
13.967	5.8	7.08	7.35	7.55	7.82
13.984	5.83	7.09	7.36	7.56	7.83
14	5.85	7.1	7.37	7.57	7.84
14.017	5.88	7.11	7.38	7.58	7.85
14.034	5.91	7.12	7.39	7.59	7.87
14.05	5.93	7.13	7.39	7.59	7.88
14.067	5.96	7.14	7.39	7.6	7.89
14.084	5.98	7.15	7.4	7.61	7.91
14.1	6.01	7.16	7.41	7.62	7.92
14.117	6.03	7.16	7.41	7.63	7.93
14.134	6.06	7.17	7.42	7.64	7.95
14.15	6.08	7.18	7.43	7.65	7.96
14.167	6.1	7.19	7.44	7.66	7.98
14.184	6.13	7.2	7.45	7.67	7.99
14.2	6.15	7.21	7.45	7.68	8.01
14.217	6.17	7.22	7.46	7.69	8.02
14.234	6.19	7.23	7.47	7.7	8.04
14.25	6.21	7.23	7.48	7.71	8.05
14.267	6.23	7.24	7.48	7.72	8.07
14.284	6.25	7.25	7.49	7.73	8.08
14.3	6.27	7.26	7.5	7.74	8.1
14.317	6.28	7.27	7.5	7.75	8.11
14.334	6.3	7.27	7.51	7.76	8.13
14.35	6.32	7.28	7.51	7.77	8.14
14.367	6.33	7.28	7.52	7.78	8.16
14.384	6.35	7.29	7.52	7.79	8.17
14.4	6.36	7.3	7.53	7.8	8.19
14.417	6.38	7.31	7.54	7.81	8.21
14.434	6.39	7.31	7.54	7.82	8.22
14.45	6.41	7.32	7.55	7.83	8.24
14.467	6.42	7.33	7.56	7.85	8.25
14.484	6.43	7.33	7.56	7.86	8.27
14.5	6.45	7.34	7.57	7.87	8.28
14.517	6.46	7.35	7.58	7.88	8.29
14.534	6.48	7.35	7.59	7.89	8.31
14.55	6.49	7.36	7.59	7.9	8.32
14.567	6.5	7.37	7.6	7.92	8.34
14.584	6.51	7.37	7.61	7.93	8.35
14.6	6.53	7.37	7.62	7.94	8.37
14.617	6.54	7.37	7.62	7.95	8.38
14.634	6.55	7.38	7.63	7.96	8.39
14.65	6.56	7.38	7.64	7.97	8.41
14.667	6.57	7.39	7.65	7.99	8.42
14.684	6.58	7.39	7.66	8	8.43
14.7	6.59	7.39	7.67	8.01	8.44
14.717	6.6	7.4	7.68	8.02	8.46
14.734	6.61	7.4	7.68	8.03	8.47
14.75	6.62	7.41	7.69	8.05	8.48
14.767	6.63	7.41	7.7	8.06	8.49
14.784	6.64	7.42	7.71	8.07	8.5
14.8	6.65	7.43	7.72	8.08	8.51
14.817	6.66	7.43	7.73	8.1	8.53

14.834	6.67	7.44	7.74	8.11	8.54
14.85	6.68	7.44	7.75	8.12	8.55
14.867	6.68	7.45	7.76	8.13	8.56
14.884	6.69	7.45	7.76	8.14	8.57
14.9	6.7	7.46	7.77	8.15	8.58
14.917	6.71	7.46	7.78	8.17	8.59
14.934	6.71	7.47	7.79	8.18	8.6
14.95	6.72	7.47	7.8	8.19	8.61
14.967	6.73	7.48	7.81	8.2	8.62
14.984	6.73	7.49	7.82	8.21	8.63
15	6.74	7.49	7.83	8.22	8.64
15.017	6.75	7.5	7.84	8.23	8.65
15.034	6.75	7.5	7.85	8.24	8.66
15.05	6.76	7.5	7.85	8.25	8.67
15.067	6.76	7.5	7.86	8.27	8.68
15.084	6.77	7.51	7.87	8.28	8.69
15.1	6.77	7.51	7.88	8.29	8.69
15.117	6.78	7.52	7.89	8.3	8.7
15.134	6.78	7.52	7.9	8.31	8.71
15.15	6.79	7.53	7.91	8.32	8.72
15.167	6.79	7.53	7.92	8.32	8.73
15.184	6.8	7.54	7.93	8.33	8.74
15.2	6.8	7.54	7.93	8.34	8.74
15.217	6.81	7.55	7.94	8.35	8.75
15.234	6.81	7.56	7.95	8.36	8.76
15.25	6.81	7.56	7.96	8.37	8.77
15.267	6.82	7.57	7.97	8.38	8.78
15.284	6.82	7.57	7.98	8.39	8.78
15.3	6.83	7.58	7.99	8.4	8.79
15.317	6.83	7.59	8	8.4	8.8
15.334	6.83	7.59	8	8.41	8.81
15.35	6.84	7.6	8.01	8.42	8.81
15.367	6.84	7.6	8.02	8.43	8.82
15.384	6.85	7.61	8.03	8.44	8.83
15.4	6.85	7.62	8.04	8.44	8.83
15.417	6.85	7.62	8.05	8.45	8.84
15.434	6.86	7.63	8.06	8.46	8.85
15.45	6.86	7.63	8.07	8.47	8.86
15.467	6.86	7.64	8.07	8.47	8.86
15.484	6.87	7.65	8.08	8.48	8.87
15.5	6.87	7.65	8.09	8.49	8.88
15.517	6.87	7.66	8.1	8.5	8.88
15.534	6.88	7.67	8.11	8.5	8.89
15.55	6.88	7.67	8.12	8.51	8.9
15.567	6.88	7.68	8.12	8.52	8.9
15.584	6.89	7.68	8.13	8.52	8.91
15.6	6.89	7.69	8.14	8.53	8.91
15.617	6.89	7.7	8.15	8.54	8.92
15.634	6.9	7.7	8.16	8.54	8.93
15.65	6.9	7.71	8.16	8.55	8.93
15.667	6.9	7.71	8.17	8.56	8.94
15.684	6.9	7.72	8.18	8.56	8.94
15.7	6.91	7.73	8.18	8.57	8.95
15.717	6.91	7.73	8.19	8.57	8.96
15.734	6.91	7.74	8.2	8.58	8.96

15.75	6.91	7.74	8.21	8.59	8.97
15.767	6.92	7.75	8.21	8.59	8.97
15.784	6.92	7.76	8.22	8.6	8.98
15.8	6.92	7.76	8.23	8.6	8.99
15.817	6.93	7.77	8.23	8.61	8.99
15.834	6.93	7.77	8.24	8.62	9
15.85	6.93	7.78	8.25	8.62	9
15.867	6.93	7.78	8.25	8.63	9.01
15.884	6.93	7.79	8.26	8.63	9.01
15.9	6.94	7.8	8.27	8.64	9.02
15.917	6.94	7.8	8.27	8.64	9.02
15.934	6.94	7.81	8.28	8.65	9.03
15.95	6.94	7.81	8.28	8.65	9.03
15.967	6.95	7.82	8.29	8.66	9.04
15.984	6.95	7.82	8.3	8.66	9.04
16	6.95	7.83	8.3	8.67	9.05
16.084	6.96	7.86	8.33	8.69	9.07
16.167	6.98	7.89	8.36	8.72	9.1
16.25	6.99	7.92	8.38	8.74	9.12
16.334	7	7.94	8.41	8.77	9.14
16.417	7.01	7.97	8.43	8.79	9.17
16.5	7.02	7.99	8.45	8.81	9.19
16.584	7.03	8.02	8.47	8.83	9.21
16.667	7.04	8.04	8.49	8.85	9.23
16.75	7.05	8.06	8.51	8.87	9.25
16.834	7.06	8.09	8.53	8.89	9.28
16.917	7.07	8.11	8.54	8.91	9.3
17	7.08	8.13	8.56	8.92	9.32
17.084	7.08	8.14	8.58	8.94	9.34
17.167	7.09	8.16	8.6	8.96	9.36
17.25	7.1	8.18	8.61	8.98	9.39
17.334	7.11	8.19	8.63	8.99	9.41
17.417	7.11	8.21	8.65	9.01	9.43
17.5	7.12	8.22	8.66	9.02	9.45
17.584	7.12	8.24	8.68	9.04	9.47
17.667	7.13	8.25	8.69	9.05	9.49
17.75	7.14	8.26	8.7	9.07	9.51
17.834	7.14	8.28	8.72	9.08	9.53
17.917	7.15	8.29	8.73	9.1	9.55
18	7.15	8.3	8.74	9.11	9.56
18.084	7.15	8.31	8.75	9.13	9.58
18.167	7.16	8.32	8.76	9.14	9.6
18.25	7.16	8.33	8.77	9.16	9.62
18.334	7.16	8.34	8.78	9.17	9.64
18.417	7.17	8.35	8.79	9.19	9.65
18.5	7.17	8.36	8.8	9.2	9.67
18.584	7.17	8.36	8.81	9.22	9.69
18.667	7.17	8.37	8.82	9.23	9.7
18.75	7.18	8.38	8.83	9.24	9.72
18.834	7.18	8.39	8.84	9.26	9.74
18.917	7.18	8.4	8.85	9.27	9.75
19	7.18	8.4	8.86	9.28	9.76
19.084	7.18	8.41	8.86	9.3	9.78
19.167	7.18	8.42	8.87	9.31	9.79
19.25	7.18	8.42	8.88	9.32	9.8

19.334	7.18	8.43	8.88	9.33	9.81
19.417	7.18	8.43	8.89	9.34	9.82
19.5	7.18	8.44	8.9	9.35	9.82
19.584	7.18	8.44	8.9	9.36	9.83
19.667	7.18	8.45	8.91	9.37	9.83
19.75	7.18	8.45	8.91	9.38	9.84
19.834	7.18	8.46	8.92	9.39	9.84
19.917	7.18	8.46	8.92	9.4	9.85
20	7.18	8.46	8.93	9.4	9.85
20.25	7.17	8.47	8.94	9.43	9.85
20.5	7.17	8.48	8.95	9.44	9.86
20.75	7.16	8.49	8.96	9.46	9.87
21	7.15	8.49	8.97	9.47	9.88
21.25	7.14	8.49	8.98	9.48	9.89
21.5	7.13	8.49	8.98	9.49	9.89
21.75	7.12	8.49	8.98	9.49	9.89
22	7.11	8.49	8.98	9.49	9.89
22.25	7.1	8.48	8.98	9.49	9.88
22.5	7.09	8.48	8.97	9.48	9.88
22.75	7.08	8.47	8.97	9.47	9.87
23	7.06	8.46	8.96	9.45	9.86
23.25	7.05	8.45	8.95	9.44	9.85
23.5	7.04	8.44	8.94	9.42	9.83
23.75	7.03	8.43	8.93	9.4	9.82
24	7.02	8.41	8.92	9.38	9.8
24.5	6.99	8.38	8.89	9.34	9.76
25	6.96	8.34	8.86	9.29	9.71
25.5	6.93	8.3	8.82	9.25	9.66
26	6.89	8.25	8.77	9.2	9.6
26.5	6.85	8.2	8.72	9.14	9.53
27	6.81	8.14	8.66	9.09	9.47
27.5	6.76	8.08	8.59	9.03	9.4
28	6.7	8.02	8.53	8.96	9.33
28.5	6.63	7.95	8.46	8.89	9.26
29	6.57	7.88	8.38	8.82	9.18
29.5	6.51	7.81	8.3	8.75	9.09
30	6.44	7.74	8.23	8.67	9.02
30.5	6.36	7.66	8.15	8.59	8.95
31	6.29	7.59	8.07	8.51	8.88
31.5	6.23	7.53	7.99	8.43	8.8
32	6.17	7.47	7.92	8.34	8.73
32.5	6.12	7.4	7.84	8.25	8.65
33	6.07	7.35	7.76	8.16	8.57
33.5	6.03	7.28	7.68	8.07	8.48
34	6	7.22	7.59	7.99	8.4
34.5	5.94	7.15	7.51	7.91	8.31
35	5.88	7.07	7.45	7.82	8.21
35.5	5.81	7	7.38	7.74	8.12
36	5.74	6.92	7.32	7.65	8.02
36.5	5.66	6.85	7.26	7.57	7.94
37	5.6	6.77	7.18	7.49	7.86
37.5	5.56	6.68	7.11	7.41	7.77
38	5.53	6.6	7.03	7.35	7.69
38.5	5.49	6.52	6.95	7.28	7.6
39	5.43	6.44	6.86	7.2	7.51

39.5	5.36	6.34	6.78	7.12	7.43
40	5.27	6.23	6.69	7.04	7.36
40.5	5.18	6.14	6.59	6.97	7.29
41	5.09	6.07	6.52	6.86	7.21
41.5	5.05	6.02	6.42	6.77	7.13
42	5.02	5.95	6.3	6.67	7.05
42.5	4.97	5.85	6.18	6.57	6.98
43	4.91	5.75	6.09	6.5	6.87
43.5	4.83	5.64	6.02	6.39	6.76
44	4.74	5.56	5.97	6.26	6.65
44.5	4.65	5.53	5.88	6.14	6.55
45	4.59	5.47	5.78	6.05	6.48
45.5	4.57	5.41	5.67	6	6.36
46	4.53	5.33	5.58	5.93	6.23
46.5	4.48	5.24	5.53	5.83	6.11
47	4.45	5.16	5.5	5.73	6.03
47.5	4.43	5.09	5.46	5.63	5.99
48	4.4	5.05	5.41	5.55	5.92
49	4.31	5.01	5.27	5.49	5.73
50	4.19	4.92	5.11	5.38	5.55
51	4.17	4.78	5.03	5.22	5.48
52	4.12	4.6	4.94	5.05	5.37
53	4.03	4.55	4.8	5	5.2
54	3.91	4.43	4.62	4.88	5.05
55	3.77	4.29	4.55	4.72	4.98
56	3.66	4.17	4.44	4.58	4.86
57	3.58	4.12	4.29	4.51	4.71
58	3.53	4.05	4.17	4.4	4.58
59	3.51	4.05	4.17	4.32	4.55
60	3.54	4.08	4.17	4.26	4.5
61	3.57	4.07	4.17	4.17	4.42
62	3.55	4.03	4.14	4.17	4.32
63	3.52	3.95	4.08	4.14	4.18
64	3.49	3.83	3.98	4.06	4.16
65	3.42	3.72	3.85	3.95	4.08
66	3.31	3.61	3.72	3.82	3.97
67	3.18	3.54	3.62	3.69	3.84
68	3.06	3.45	3.54	3.6	3.7
69	3.01	3.38	3.47	3.53	3.61
70	3.07	3.37	3.44	3.49	3.55
71	3.17	3.39	3.44	3.48	3.52
72	3.27	3.43	3.47	3.51	3.57
72	3.24				

	2yr	10yr	25yr	50yr	100yr
0	2	2	2	2	2
0.5	2.01	2.01	2.01	2.01	2.01
1	2.05	2.05	2.05	2.05	2.05
1.5	2.06	2.06	2.06	2.06	2.06
2	2.06	2.06	2.06	2.06	2.06
2.5	2.05	2.05	2.05	2.05	2.05
3	2.05	2.05	2.05	2.05	2.05
3.5	2.04	2.04	2.04	2.04	2.04
4	2.04	2.04	2.04	2.04	2.04
4.5	2.04	2.04	2.04	2.04	2.04
5	2.03	2.03	2.03	2.03	2.04
5.5	2.03	2.03	2.03	2.03	2.04
6	2.03	2.03	2.03	2.04	2.05
6.5	2.02	2.03	2.04	2.05	2.07
7	2.02	2.03	2.05	2.07	2.1
7.5	2.02	2.04	2.06	2.09	2.14
8	2.02	2.06	2.09	2.13	2.2
8.5	2.02	2.08	2.13	2.2	2.3
9	2.03	2.13	2.2	2.29	2.45
9.5	2.06	2.21	2.32	2.46	2.7
9.583	2.07	2.23	2.34	2.5	2.75
9.667	2.08	2.25	2.37	2.54	2.81
9.75	2.09	2.27	2.4	2.58	2.88
9.834	2.1	2.29	2.44	2.63	2.94
9.917	2.11	2.32	2.47	2.68	3.01
10	2.12	2.34	2.51	2.73	3.09
10.084	2.13	2.38	2.56	2.79	3.16
10.167	2.15	2.41	2.6	2.85	3.24
10.25	2.16	2.44	2.65	2.92	3.32
10.334	2.18	2.48	2.71	2.98	3.4
10.417	2.2	2.52	2.76	3.05	3.47
10.5	2.22	2.57	2.82	3.13	3.55
10.584	2.24	2.61	2.88	3.2	3.62
10.667	2.27	2.66	2.94	3.28	3.7
10.75	2.29	2.71	3	3.35	3.79
10.834	2.32	2.76	3.07	3.43	3.87
10.917	2.35	2.81	3.14	3.5	3.96
11	2.37	2.87	3.21	3.58	4.05
11.084	2.4	2.93	3.29	3.66	4.13
11.167	2.44	2.99	3.36	3.74	4.22
11.25	2.47	3.06	3.44	3.82	4.31
11.334	2.5	3.12	3.51	3.91	4.4
11.417	2.54	3.2	3.59	4	4.5
11.5	2.57	3.27	3.67	4.09	4.59
11.584	2.61	3.35	3.75	4.18	4.69
11.667	2.65	3.43	3.84	4.27	4.8
11.75	2.69	3.5	3.93	4.38	4.91
11.834	2.74	3.58	4.03	4.48	5.02
11.917	2.79	3.67	4.13	4.59	5.14
12	2.85	3.77	4.24	4.72	5.28
12.017	2.86	3.79	4.27	4.75	5.31
12.034	2.87	3.81	4.3	4.77	5.34
12.05	2.89	3.84	4.32	4.8	5.37
12.067	2.9	3.86	4.35	4.83	5.4

12.084	2.92	3.88	4.38	4.86	5.43
12.1	2.93	3.91	4.41	4.9	5.47
12.117	2.95	3.94	4.44	4.93	5.5
12.134	2.96	3.97	4.47	4.96	5.54
12.15	2.98	4	4.5	4.99	5.57
12.167	3	4.03	4.53	5.03	5.61
12.184	3.01	4.06	4.56	5.06	5.64
12.2	3.03	4.09	4.59	5.1	5.68
12.217	3.05	4.12	4.63	5.13	5.72
12.234	3.07	4.15	4.66	5.17	5.76
12.25	3.09	4.18	4.7	5.21	5.8
12.267	3.11	4.21	4.73	5.25	5.84
12.284	3.13	4.24	4.77	5.29	5.88
12.3	3.15	4.28	4.8	5.33	5.93
12.317	3.18	4.31	4.84	5.37	5.97
12.334	3.2	4.34	4.88	5.41	6.02
12.35	3.22	4.38	4.92	5.45	6.06
12.367	3.25	4.41	4.96	5.49	6.1
12.384	3.27	4.45	5	5.54	6.15
12.4	3.3	4.49	5.04	5.58	6.19
12.417	3.32	4.52	5.08	5.62	6.23
12.434	3.35	4.56	5.12	5.67	6.28
12.45	3.38	4.6	5.17	5.71	6.32
12.467	3.41	4.64	5.21	5.76	6.37
12.484	3.43	4.68	5.25	5.81	6.41
12.5	3.46	4.72	5.3	5.85	6.46
12.517	3.49	4.76	5.34	5.9	6.5
12.534	3.52	4.8	5.39	5.95	6.55
12.55	3.54	4.84	5.43	6	6.59
12.567	3.57	4.88	5.48	6.04	6.64
12.584	3.6	4.92	5.53	6.09	6.68
12.6	3.63	4.96	5.57	6.14	6.73
12.617	3.65	5	5.62	6.18	6.77
12.634	3.68	5.05	5.67	6.23	6.82
12.65	3.71	5.09	5.72	6.27	6.86
12.667	3.74	5.14	5.76	6.32	6.91
12.684	3.77	5.18	5.81	6.36	6.95
12.7	3.81	5.23	5.86	6.41	7
12.717	3.84	5.27	5.91	6.45	7.04
12.734	3.87	5.32	5.96	6.5	7.09
12.75	3.91	5.37	6.01	6.55	7.13
12.767	3.94	5.42	6.05	6.59	7.17
12.784	3.98	5.46	6.1	6.64	7.21
12.8	4.01	5.51	6.15	6.68	7.26
12.817	4.05	5.56	6.19	6.73	7.3
12.834	4.08	5.61	6.24	6.77	7.34
12.85	4.11	5.65	6.28	6.82	7.38
12.867	4.15	5.7	6.32	6.86	7.42
12.884	4.18	5.75	6.37	6.91	7.45
12.9	4.21	5.8	6.41	6.95	7.49
12.917	4.25	5.84	6.46	7	7.52
12.934	4.28	5.89	6.5	7.04	7.56
12.95	4.31	5.94	6.54	7.08	7.59
12.967	4.35	5.98	6.59	7.13	7.63
12.984	4.38	6.03	6.63	7.17	7.66

13	4.42	6.07	6.67	7.21	7.69
13.017	4.45	6.12	6.71	7.25	7.72
13.034	4.49	6.16	6.76	7.29	7.74
13.05	4.52	6.2	6.8	7.33	7.77
13.067	4.56	6.24	6.84	7.36	7.8
13.084	4.6	6.28	6.88	7.4	7.83
13.1	4.63	6.32	6.93	7.43	7.85
13.117	4.67	6.36	6.97	7.47	7.87
13.134	4.7	6.4	7.01	7.5	7.9
13.15	4.74	6.44	7.05	7.53	7.92
13.167	4.77	6.48	7.09	7.56	7.94
13.184	4.81	6.52	7.12	7.59	7.96
13.2	4.85	6.56	7.16	7.62	7.98
13.217	4.88	6.59	7.2	7.65	8
13.234	4.92	6.63	7.23	7.68	8.02
13.25	4.95	6.67	7.27	7.7	8.04
13.267	4.99	6.71	7.3	7.73	8.06
13.284	5.02	6.74	7.33	7.75	8.07
13.3	5.06	6.78	7.37	7.77	8.09
13.317	5.09	6.82	7.4	7.8	8.11
13.334	5.13	6.85	7.43	7.82	8.13
13.35	5.16	6.89	7.46	7.84	8.14
13.367	5.2	6.93	7.49	7.86	8.16
13.384	5.23	6.96	7.52	7.88	8.17
13.4	5.26	6.99	7.54	7.9	8.19
13.417	5.3	7.03	7.57	7.92	8.2
13.434	5.33	7.06	7.59	7.93	8.22
13.45	5.37	7.09	7.62	7.95	8.23
13.467	5.4	7.12	7.64	7.97	8.25
13.484	5.43	7.15	7.67	7.98	8.26
13.5	5.46	7.18	7.69	8	8.27
13.517	5.5	7.21	7.71	8.01	8.29
13.534	5.53	7.24	7.73	8.03	8.3
13.55	5.56	7.27	7.75	8.04	8.31
13.567	5.59	7.3	7.77	8.06	8.33
13.584	5.62	7.32	7.79	8.07	8.34
13.6	5.65	7.35	7.81	8.08	8.35
13.617	5.68	7.37	7.82	8.1	8.36
13.634	5.71	7.4	7.84	8.11	8.37
13.65	5.74	7.42	7.86	8.12	8.39
13.667	5.77	7.45	7.87	8.13	8.4
13.684	5.79	7.47	7.89	8.15	8.41
13.7	5.82	7.49	7.9	8.16	8.42
13.717	5.85	7.51	7.91	8.17	8.43
13.734	5.88	7.53	7.93	8.18	8.44
13.75	5.91	7.55	7.94	8.19	8.45
13.767	5.93	7.57	7.95	8.2	8.46
13.784	5.96	7.59	7.96	8.21	8.47
13.8	5.99	7.61	7.98	8.23	8.48
13.817	6.01	7.63	7.99	8.24	8.49
13.834	6.04	7.65	8	8.25	8.5
13.85	6.07	7.66	8.01	8.26	8.51
13.867	6.09	7.68	8.02	8.27	8.52
13.884	6.12	7.69	8.03	8.28	8.53
13.9	6.14	7.71	8.04	8.29	8.54

13.917	6.16	7.73	8.05	8.29	8.55
13.934	6.19	7.74	8.06	8.3	8.56
13.95	6.21	7.75	8.07	8.31	8.57
13.967	6.24	7.77	8.08	8.32	8.58
13.984	6.26	7.78	8.09	8.33	8.59
14	6.28	7.79	8.1	8.34	8.6
14.017	6.31	7.81	8.11	8.35	8.6
14.034	6.33	7.82	8.12	8.36	8.61
14.05	6.35	7.83	8.13	8.36	8.62
14.067	6.38	7.84	8.14	8.37	8.63
14.084	6.4	7.85	8.15	8.38	8.64
14.1	6.42	7.86	8.16	8.39	8.65
14.117	6.44	7.87	8.16	8.4	8.66
14.134	6.47	7.88	8.17	8.4	8.66
14.15	6.49	7.89	8.18	8.41	8.67
14.167	6.51	7.9	8.19	8.42	8.68
14.184	6.53	7.91	8.2	8.43	8.69
14.2	6.55	7.92	8.2	8.44	8.7
14.217	6.57	7.93	8.21	8.44	8.71
14.234	6.59	7.94	8.22	8.45	8.71
14.25	6.61	7.95	8.23	8.46	8.72
14.267	6.63	7.96	8.23	8.47	8.73
14.284	6.65	7.96	8.24	8.47	8.74
14.3	6.67	7.97	8.25	8.48	8.74
14.317	6.69	7.98	8.25	8.49	8.75
14.334	6.71	7.99	8.26	8.49	8.76
14.35	6.72	7.99	8.27	8.5	8.77
14.367	6.74	8	8.27	8.51	8.77
14.384	6.76	8.01	8.28	8.52	8.78
14.4	6.77	8.02	8.29	8.52	8.79
14.417	6.79	8.02	8.29	8.53	8.8
14.434	6.81	8.03	8.3	8.54	8.8
14.45	6.82	8.04	8.3	8.55	8.81
14.467	6.84	8.04	8.31	8.55	8.82
14.484	6.85	8.05	8.32	8.56	8.82
14.5	6.86	8.06	8.32	8.57	8.83
14.517	6.88	8.06	8.33	8.57	8.84
14.534	6.89	8.07	8.33	8.58	8.85
14.55	6.91	8.08	8.34	8.59	8.85
14.567	6.92	8.08	8.35	8.59	8.86
14.584	6.93	8.09	8.35	8.6	8.87
14.6	6.95	8.09	8.36	8.61	8.87
14.617	6.96	8.1	8.36	8.61	8.88
14.634	6.97	8.11	8.37	8.62	8.89
14.65	6.98	8.11	8.38	8.63	8.89
14.667	6.99	8.12	8.38	8.63	8.9
14.684	7.01	8.12	8.39	8.64	8.91
14.7	7.02	8.13	8.39	8.65	8.91
14.717	7.03	8.13	8.4	8.65	8.92
14.734	7.04	8.14	8.41	8.66	8.93
14.75	7.05	8.14	8.41	8.66	8.93
14.767	7.06	8.15	8.42	8.67	8.94
14.784	7.07	8.15	8.42	8.68	8.95
14.8	7.08	8.16	8.43	8.68	8.95
14.817	7.09	8.16	8.43	8.69	8.96

14.834	7.1	8.17	8.44	8.69	8.97
14.85	7.11	8.17	8.45	8.7	8.97
14.867	7.12	8.18	8.45	8.71	8.98
14.884	7.13	8.18	8.46	8.71	8.99
14.9	7.14	8.19	8.46	8.72	8.99
14.917	7.15	8.19	8.47	8.72	9
14.934	7.16	8.2	8.47	8.73	9
14.95	7.17	8.2	8.48	8.73	9.01
14.967	7.17	8.21	8.49	8.74	9.02
14.984	7.18	8.21	8.49	8.74	9.02
15	7.19	8.22	8.5	8.75	9.03
15.017	7.2	8.22	8.5	8.76	9.04
15.034	7.21	8.22	8.51	8.76	9.04
15.05	7.21	8.23	8.51	8.77	9.05
15.067	7.22	8.23	8.52	8.77	9.05
15.084	7.23	8.24	8.52	8.78	9.06
15.1	7.24	8.24	8.53	8.78	9.07
15.117	7.24	8.25	8.53	8.79	9.07
15.134	7.25	8.25	8.54	8.79	9.08
15.15	7.26	8.26	8.54	8.8	9.08
15.167	7.27	8.26	8.55	8.8	9.09
15.184	7.27	8.26	8.55	8.81	9.09
15.2	7.28	8.27	8.56	8.81	9.1
15.217	7.29	8.27	8.56	8.82	9.11
15.234	7.29	8.28	8.57	8.82	9.11
15.25	7.3	8.28	8.57	8.83	9.12
15.267	7.31	8.28	8.58	8.83	9.12
15.284	7.31	8.29	8.58	8.84	9.13
15.3	7.32	8.29	8.59	8.84	9.13
15.317	7.33	8.3	8.59	8.85	9.14
15.334	7.33	8.3	8.6	8.85	9.15
15.35	7.34	8.31	8.6	8.86	9.15
15.367	7.35	8.31	8.6	8.86	9.16
15.384	7.35	8.31	8.61	8.87	9.16
15.4	7.36	8.32	8.61	8.87	9.17
15.417	7.36	8.32	8.62	8.88	9.17
15.434	7.37	8.33	8.62	8.88	9.18
15.45	7.37	8.33	8.63	8.89	9.18
15.467	7.38	8.33	8.63	8.89	9.19
15.484	7.38	8.34	8.64	8.9	9.19
15.5	7.39	8.34	8.64	8.9	9.2
15.517	7.39	8.35	8.64	8.91	9.2
15.534	7.4	8.35	8.65	8.91	9.21
15.55	7.41	8.35	8.65	8.92	9.21
15.567	7.41	8.36	8.66	8.92	9.22
15.584	7.42	8.36	8.66	8.93	9.22
15.6	7.42	8.37	8.67	8.93	9.23
15.617	7.43	8.37	8.67	8.93	9.23
15.634	7.43	8.37	8.67	8.94	9.24
15.65	7.43	8.38	8.68	8.94	9.24
15.667	7.44	8.38	8.68	8.95	9.25
15.684	7.44	8.38	8.69	8.95	9.25
15.7	7.45	8.39	8.69	8.96	9.26
15.717	7.45	8.39	8.69	8.96	9.26
15.734	7.46	8.4	8.7	8.97	9.27

15.75	7.46	8.4	8.7	8.97	9.27
15.767	7.47	8.4	8.71	8.98	9.28
15.784	7.47	8.41	8.71	8.98	9.28
15.8	7.47	8.41	8.71	8.98	9.29
15.817	7.48	8.41	8.72	8.99	9.29
15.834	7.48	8.42	8.72	8.99	9.3
15.85	7.49	8.42	8.73	9	9.3
15.867	7.49	8.42	8.73	9	9.3
15.884	7.49	8.43	8.73	9.01	9.31
15.9	7.5	8.43	8.74	9.01	9.31
15.917	7.5	8.43	8.74	9.01	9.32
15.934	7.51	8.44	8.74	9.02	9.32
15.95	7.51	8.44	8.75	9.02	9.33
15.967	7.51	8.45	8.75	9.03	9.33
15.984	7.52	8.45	8.76	9.03	9.34
16	7.52	8.45	8.76	9.04	9.34
16.084	7.54	8.47	8.78	9.06	9.36
16.167	7.55	8.48	8.8	9.08	9.38
16.25	7.57	8.5	8.81	9.09	9.4
16.334	7.58	8.51	8.83	9.11	9.42
16.417	7.6	8.53	8.85	9.13	9.44
16.5	7.61	8.54	8.86	9.15	9.46
16.584	7.62	8.56	8.88	9.16	9.48
16.667	7.64	8.57	8.89	9.18	9.5
16.75	7.65	8.58	8.91	9.2	9.52
16.834	7.66	8.59	8.92	9.21	9.55
16.917	7.67	8.61	8.94	9.23	9.57
17	7.68	8.62	8.95	9.25	9.59
17.084	7.68	8.63	8.97	9.26	9.61
17.167	7.69	8.64	8.98	9.28	9.63
17.25	7.7	8.65	8.99	9.29	9.65
17.334	7.71	8.66	9.01	9.3	9.67
17.417	7.71	8.67	9.02	9.32	9.69
17.5	7.72	8.68	9.03	9.33	9.71
17.584	7.72	8.69	9.04	9.35	9.73
17.667	7.73	8.7	9.05	9.36	9.74
17.75	7.73	8.71	9.06	9.37	9.76
17.834	7.73	8.72	9.07	9.39	9.78
17.917	7.74	8.73	9.08	9.4	9.8
18	7.74	8.74	9.09	9.41	9.81
18.084	7.74	8.74	9.1	9.43	9.83
18.167	7.75	8.75	9.11	9.44	9.85
18.25	7.75	8.76	9.12	9.45	9.86
18.334	7.75	8.76	9.13	9.47	9.88
18.417	7.75	8.77	9.14	9.48	9.89
18.5	7.75	8.78	9.14	9.49	9.91
18.584	7.75	8.78	9.15	9.5	9.92
18.667	7.75	8.79	9.16	9.52	9.94
18.75	7.76	8.8	9.17	9.53	9.95
18.834	7.76	8.8	9.17	9.54	9.96
18.917	7.76	8.81	9.18	9.55	9.98
19	7.75	8.81	9.19	9.56	9.99
19.084	7.75	8.82	9.19	9.57	10
19.167	7.75	8.82	9.2	9.58	10.01
19.25	7.75	8.82	9.21	9.59	10.02

19.334	7.75	8.83	9.21	9.6	10.03
19.417	7.75	8.83	9.22	9.61	10.04
19.5	7.75	8.84	9.22	9.62	10.05
19.584	7.75	8.84	9.22	9.63	10.06
19.667	7.74	8.84	9.23	9.63	10.07
19.75	7.74	8.85	9.23	9.64	10.07
19.834	7.74	8.85	9.24	9.65	10.08
19.917	7.74	8.85	9.24	9.65	10.08
20	7.73	8.85	9.24	9.66	10.09
20.25	7.73	8.86	9.25	9.68	10.1
20.5	7.71	8.86	9.26	9.69	10.1
20.75	7.7	8.87	9.27	9.7	10.11
21	7.69	8.87	9.27	9.71	10.11
21.25	7.67	8.87	9.27	9.71	10.11
21.5	7.66	8.87	9.27	9.72	10.11
21.75	7.64	8.86	9.27	9.72	10.1
22	7.63	8.86	9.27	9.71	10.1
22.25	7.61	8.85	9.27	9.71	10.09
22.5	7.59	8.85	9.26	9.7	10.08
22.75	7.58	8.84	9.26	9.69	10.07
23	7.56	8.83	9.25	9.68	10.06
23.25	7.54	8.82	9.24	9.66	10.05
23.5	7.52	8.81	9.23	9.65	10.03
23.75	7.5	8.79	9.22	9.63	10.01
24	7.48	8.78	9.21	9.61	10
24.5	7.44	8.75	9.18	9.57	9.96
25	7.39	8.71	9.14	9.53	9.91
25.5	7.34	8.67	9.1	9.48	9.86
26	7.27	8.63	9.06	9.43	9.8
26.5	7.21	8.58	9.01	9.38	9.74
27	7.13	8.53	8.96	9.33	9.68
27.5	7.06	8.47	8.9	9.27	9.61
28	6.98	8.42	8.84	9.21	9.55
28.5	6.89	8.36	8.77	9.15	9.48
29	6.81	8.31	8.71	9.08	9.41
29.5	6.73	8.25	8.64	9.01	9.34
30	6.65	8.2	8.57	8.94	9.26
30.5	6.57	8.14	8.5	8.87	9.19
31	6.48	8.08	8.44	8.8	9.12
31.5	6.4	8.02	8.37	8.72	9.05
32	6.33	7.95	8.31	8.65	8.97
32.5	6.27	7.89	8.24	8.57	8.9
33	6.21	7.81	8.18	8.49	8.82
33.5	6.15	7.73	8.11	8.42	8.75
34	6.11	7.64	8.05	8.35	8.67
34.5	6.06	7.55	7.98	8.28	8.59
35	6	7.46	7.91	8.21	8.51
35.5	5.93	7.35	7.83	8.14	8.43
36	5.85	7.25	7.74	8.07	8.36
36.5	5.77	7.13	7.65	8	8.29
37	5.69	7.02	7.55	7.92	8.22
37.5	5.63	6.91	7.46	7.84	8.14
38	5.58	6.8	7.36	7.75	8.07
38.5	5.54	6.69	7.25	7.66	8
39	5.48	6.6	7.13	7.56	7.92

39.5	5.41	6.49	7.01	7.46	7.84
40	5.33	6.37	6.89	7.35	7.75
40.5	5.23	6.26	6.77	7.24	7.65
41	5.14	6.17	6.66	7.12	7.54
41.5	5.08	6.09	6.56	6.99	7.44
42	5.05	6.02	6.43	6.86	7.33
42.5	5	5.92	6.3	6.73	7.22
43	4.94	5.82	6.19	6.62	7.1
43.5	4.86	5.71	6.09	6.5	6.96
44	4.78	5.61	6.02	6.37	6.82
44.5	4.69	5.55	5.94	6.24	6.68
45	4.61	5.5	5.84	6.13	6.57
45.5	4.58	5.44	5.73	6.05	6.46
46	4.54	5.36	5.63	5.97	6.32
46.5	4.5	5.28	5.56	5.88	6.19
47	4.46	5.2	5.52	5.78	6.09
47.5	4.44	5.12	5.48	5.68	6.03
48	4.41	5.06	5.43	5.59	5.96
49	4.32	5.02	5.29	5.51	5.77
50	4.21	4.94	5.14	5.4	5.58
51	4.17	4.8	5.04	5.25	5.5
52	4.13	4.64	4.96	5.08	5.39
53	4.05	4.56	4.82	5.01	5.23
54	3.93	4.45	4.65	4.9	5.06
55	3.8	4.31	4.56	4.75	4.99
56	3.67	4.18	4.45	4.59	4.88
57	3.59	4.13	4.32	4.52	4.73
58	3.53	4.06	4.18	4.41	4.59
59	3.51	4.05	4.17	4.33	4.55
60	3.54	4.08	4.17	4.27	4.5
61	3.57	4.07	4.17	4.18	4.43
62	3.55	4.03	4.15	4.17	4.33
63	3.52	3.96	4.08	4.14	4.2
64	3.49	3.85	3.99	4.07	4.16
65	3.43	3.73	3.87	3.97	4.09
66	3.33	3.62	3.74	3.84	3.99
67	3.21	3.55	3.63	3.71	3.86
68	3.08	3.46	3.55	3.61	3.72
69	3.01	3.39	3.48	3.54	3.62
70	3.06	3.37	3.44	3.49	3.55
71	3.15	3.39	3.44	3.48	3.53
72	3.26	3.43	3.47	3.5	3.57

	2yr	10yr	25yr	50yr	100yr
0	3.5	3.5	3.5	3.5	3.5
0.5	3.52	3.52	3.52	3.52	3.52
1	3.52	3.52	3.52	3.52	3.52
1.5	3.52	3.52	3.52	3.52	3.52
2	3.52	3.52	3.52	3.52	3.52
2.5	3.52	3.52	3.52	3.52	3.52
3	3.52	3.52	3.52	3.52	3.52
3.5	3.52	3.52	3.52	3.52	3.52
4	3.52	3.52	3.52	3.52	3.52
4.5	3.52	3.52	3.52	3.52	3.52
5	3.53	3.53	3.53	3.53	3.53
5.5	3.54	3.54	3.54	3.54	3.54
6	3.55	3.55	3.55	3.55	3.55
6.5	3.57	3.57	3.57	3.57	3.57
7	3.59	3.59	3.59	3.59	3.6
7.5	3.61	3.61	3.61	3.62	3.63
8	3.64	3.64	3.64	3.65	3.68
8.5	3.66	3.67	3.68	3.7	3.74
9	3.69	3.7	3.72	3.75	3.83
9.5	3.71	3.74	3.78	3.85	3.95
9.583	3.71	3.74	3.79	3.87	3.97
9.667	3.71	3.75	3.81	3.89	4
9.75	3.72	3.76	3.83	3.91	4.03
9.834	3.72	3.77	3.84	3.93	4.05
9.917	3.73	3.78	3.86	3.95	4.09
10	3.73	3.79	3.88	3.97	4.12
10.084	3.73	3.81	3.9	4	4.15
10.167	3.74	3.82	3.92	4.02	4.19
10.25	3.74	3.84	3.94	4.05	4.23
10.334	3.75	3.86	3.96	4.08	4.27
10.417	3.75	3.88	3.98	4.11	4.32
10.5	3.76	3.9	4	4.15	4.36
10.584	3.76	3.91	4.03	4.18	4.41
10.667	3.77	3.93	4.06	4.22	4.46
10.75	3.77	3.96	4.09	4.26	4.52
10.834	3.78	3.98	4.12	4.3	4.58
10.917	3.78	4	4.15	4.35	4.64
11	3.79	4.03	4.19	4.4	4.7
11.084	3.8	4.05	4.23	4.45	4.77
11.167	3.81	4.08	4.27	4.5	4.84
11.25	3.82	4.11	4.31	4.56	4.92
11.334	3.83	4.14	4.35	4.62	4.99
11.417	3.84	4.18	4.4	4.68	5.07
11.5	3.86	4.22	4.45	4.75	5.16
11.584	3.88	4.26	4.51	4.82	5.24
11.667	3.91	4.3	4.57	4.89	5.33
11.75	3.93	4.34	4.63	4.97	5.41
11.834	3.95	4.39	4.7	5.06	5.5
11.917	3.98	4.45	4.77	5.15	5.59
12	4	4.51	4.85	5.24	5.68
12.017	4.01	4.52	4.87	5.26	5.7
12.034	4.02	4.54	4.89	5.28	5.71
12.05	4.02	4.55	4.9	5.3	5.73
12.067	4.03	4.56	4.92	5.32	5.75

12.084	4.03	4.58	4.94	5.34	5.76
12.1	4.04	4.59	4.96	5.36	5.78
12.117	4.05	4.61	4.98	5.38	5.79
12.134	4.05	4.62	5	5.4	5.8
12.15	4.06	4.64	5.02	5.42	5.82
12.167	4.07	4.65	5.04	5.44	5.83
12.184	4.08	4.67	5.06	5.46	5.84
12.2	4.08	4.69	5.08	5.49	5.86
12.217	4.09	4.7	5.1	5.51	5.87
12.234	4.1	4.72	5.12	5.53	5.89
12.25	4.11	4.74	5.15	5.56	5.9
12.267	4.11	4.76	5.17	5.58	5.91
12.284	4.12	4.78	5.19	5.6	5.93
12.3	4.13	4.8	5.22	5.63	5.94
12.317	4.14	4.82	5.24	5.66	5.95
12.334	4.15	4.84	5.27	5.68	5.96
12.35	4.16	4.86	5.29	5.71	5.97
12.367	4.17	4.88	5.32	5.73	5.99
12.384	4.18	4.9	5.34	5.75	6
12.4	4.19	4.92	5.37	5.77	6.01
12.417	4.2	4.95	5.4	5.79	6.02
12.434	4.21	4.97	5.43	5.81	6.03
12.45	4.22	5	5.46	5.83	6.04
12.467	4.23	5.02	5.49	5.85	6.05
12.484	4.24	5.05	5.51	5.86	6.07
12.5	4.25	5.08	5.55	5.88	6.08
12.517	4.27	5.11	5.58	5.9	6.09
12.534	4.28	5.13	5.61	5.91	6.1
12.55	4.29	5.16	5.64	5.93	6.11
12.567	4.31	5.19	5.67	5.94	6.12
12.584	4.32	5.22	5.71	5.96	6.13
12.6	4.33	5.25	5.73	5.97	6.14
12.617	4.35	5.29	5.76	5.98	6.15
12.634	4.36	5.32	5.78	6	6.16
12.65	4.38	5.35	5.8	6.01	6.17
12.667	4.39	5.38	5.82	6.02	6.17
12.684	4.41	5.41	5.84	6.03	6.18
12.7	4.42	5.45	5.86	6.04	6.19
12.717	4.44	5.48	5.87	6.06	6.2
12.734	4.46	5.51	5.89	6.07	6.21
12.75	4.47	5.55	5.91	6.08	6.22
12.767	4.49	5.58	5.92	6.09	6.23
12.784	4.51	5.62	5.94	6.1	6.24
12.8	4.53	5.65	5.95	6.11	6.25
12.817	4.55	5.68	5.97	6.12	6.26
12.834	4.57	5.72	5.98	6.13	6.27
12.85	4.59	5.74	5.99	6.14	6.28
12.867	4.6	5.77	6.01	6.15	6.29
12.884	4.63	5.79	6.02	6.16	6.29
12.9	4.65	5.81	6.03	6.17	6.3
12.917	4.67	5.83	6.04	6.18	6.31
12.934	4.69	5.85	6.05	6.19	6.32
12.95	4.71	5.86	6.06	6.2	6.33
12.967	4.73	5.88	6.07	6.21	6.34
12.984	4.76	5.9	6.09	6.22	6.35

13	4.78	5.92	6.1	6.23	6.36
13.017	4.8	5.93	6.11	6.24	6.37
13.034	4.83	5.94	6.12	6.25	6.38
13.05	4.85	5.96	6.13	6.26	6.39
13.067	4.88	5.97	6.14	6.26	6.39
13.084	4.9	5.98	6.15	6.27	6.4
13.1	4.93	6	6.16	6.28	6.41
13.117	4.96	6.01	6.17	6.29	6.42
13.134	4.98	6.02	6.18	6.3	6.43
13.15	5.01	6.03	6.19	6.31	6.44
13.167	5.04	6.04	6.2	6.32	6.44
13.184	5.07	6.05	6.21	6.33	6.45
13.2	5.09	6.07	6.22	6.34	6.46
13.217	5.12	6.08	6.23	6.35	6.47
13.234	5.15	6.09	6.23	6.36	6.48
13.25	5.18	6.1	6.24	6.37	6.49
13.267	5.21	6.11	6.25	6.38	6.49
13.284	5.24	6.12	6.26	6.38	6.5
13.3	5.27	6.13	6.27	6.39	6.51
13.317	5.29	6.14	6.28	6.4	6.52
13.334	5.32	6.15	6.29	6.41	6.53
13.35	5.35	6.16	6.3	6.42	6.54
13.367	5.38	6.17	6.31	6.43	6.55
13.384	5.41	6.18	6.32	6.43	6.55
13.4	5.44	6.19	6.32	6.44	6.56
13.417	5.46	6.2	6.33	6.45	6.57
13.434	5.49	6.2	6.34	6.46	6.58
13.45	5.52	6.21	6.35	6.47	6.59
13.467	5.55	6.22	6.36	6.47	6.6
13.484	5.58	6.23	6.37	6.48	6.61
13.5	5.6	6.24	6.38	6.49	6.62
13.517	5.63	6.25	6.39	6.5	6.62
13.534	5.66	6.26	6.4	6.51	6.63
13.55	5.69	6.27	6.4	6.52	6.64
13.567	5.71	6.28	6.41	6.52	6.65
13.584	5.74	6.28	6.42	6.53	6.66
13.6	5.75	6.29	6.43	6.54	6.67
13.617	5.77	6.3	6.43	6.55	6.68
13.634	5.79	6.31	6.44	6.56	6.69
13.65	5.81	6.32	6.45	6.57	6.7
13.667	5.82	6.33	6.46	6.57	6.7
13.684	5.84	6.34	6.47	6.58	6.71
13.7	5.85	6.34	6.47	6.59	6.72
13.717	5.87	6.35	6.48	6.6	6.73
13.734	5.88	6.36	6.49	6.61	6.74
13.75	5.89	6.37	6.5	6.62	6.75
13.767	5.91	6.38	6.5	6.62	6.76
13.784	5.92	6.39	6.51	6.63	6.77
13.8	5.93	6.39	6.52	6.64	6.78
13.817	5.95	6.4	6.53	6.65	6.78
13.834	5.96	6.41	6.54	6.66	6.79
13.85	5.97	6.41	6.54	6.66	6.8
13.867	5.98	6.42	6.55	6.67	6.81
13.884	5.99	6.43	6.56	6.68	6.82
13.9	6	6.44	6.57	6.69	6.83

13.917	6.01	6.44	6.57	6.7	6.84
13.934	6.02	6.45	6.58	6.71	6.85
13.95	6.03	6.46	6.59	6.71	6.85
13.967	6.04	6.46	6.6	6.72	6.86
13.984	6.05	6.47	6.6	6.73	6.87
14	6.06	6.48	6.61	6.74	6.88
14.017	6.07	6.48	6.62	6.75	6.89
14.034	6.07	6.49	6.63	6.75	6.9
14.05	6.08	6.5	6.63	6.76	6.91
14.067	6.09	6.5	6.64	6.77	6.91
14.084	6.1	6.51	6.65	6.78	6.92
14.1	6.11	6.52	6.66	6.79	6.93
14.117	6.12	6.52	6.66	6.79	6.94
14.134	6.12	6.53	6.67	6.8	6.95
14.15	6.13	6.54	6.68	6.81	6.96
14.167	6.14	6.54	6.69	6.82	6.97
14.184	6.15	6.55	6.69	6.83	6.98
14.2	6.15	6.56	6.7	6.83	6.98
14.217	6.16	6.56	6.71	6.84	6.99
14.234	6.17	6.57	6.71	6.85	7
14.25	6.18	6.58	6.72	6.86	7.01
14.267	6.18	6.58	6.73	6.86	7.02
14.284	6.19	6.59	6.74	6.87	7.03
14.3	6.2	6.6	6.74	6.88	7.04
14.317	6.2	6.6	6.75	6.89	7.05
14.334	6.21	6.61	6.76	6.89	7.06
14.35	6.22	6.62	6.76	6.9	7.07
14.367	6.22	6.62	6.77	6.91	7.08
14.384	6.23	6.63	6.78	6.92	7.08
14.4	6.24	6.64	6.78	6.92	7.09
14.417	6.24	6.64	6.79	6.93	7.1
14.434	6.25	6.65	6.8	6.94	7.11
14.45	6.26	6.65	6.81	6.95	7.12
14.467	6.26	6.66	6.81	6.96	7.13
14.484	6.27	6.67	6.82	6.96	7.14
14.5	6.27	6.67	6.83	6.97	7.15
14.517	6.28	6.68	6.83	6.98	7.16
14.534	6.29	6.69	6.84	6.99	7.17
14.55	6.29	6.69	6.85	6.99	7.18
14.567	6.3	6.7	6.85	7	7.19
14.584	6.3	6.7	6.86	7.01	7.19
14.6	6.31	6.71	6.87	7.02	7.2
14.617	6.31	6.72	6.87	7.03	7.21
14.634	6.32	6.72	6.88	7.03	7.22
14.65	6.33	6.73	6.89	7.04	7.23
14.667	6.33	6.73	6.89	7.05	7.24
14.684	6.34	6.74	6.9	7.06	7.25
14.7	6.34	6.75	6.91	7.07	7.26
14.717	6.35	6.75	6.91	7.07	7.27
14.734	6.36	6.76	6.92	7.08	7.28
14.75	6.36	6.76	6.93	7.09	7.29
14.767	6.37	6.77	6.93	7.1	7.3
14.784	6.37	6.78	6.94	7.1	7.31
14.8	6.38	6.78	6.95	7.11	7.32
14.817	6.38	6.79	6.95	7.12	7.33

14.834	6.39	6.79	6.96	7.13	7.33
14.85	6.39	6.8	6.96	7.14	7.34
14.867	6.4	6.8	6.97	7.14	7.35
14.884	6.4	6.81	6.98	7.15	7.36
14.9	6.41	6.82	6.98	7.16	7.37
14.917	6.41	6.82	6.99	7.17	7.38
14.934	6.41	6.83	7	7.18	7.39
14.95	6.42	6.83	7	7.18	7.4
14.967	6.42	6.84	7.01	7.19	7.41
14.984	6.43	6.84	7.02	7.2	7.42
15	6.43	6.85	7.02	7.21	7.43
15.017	6.44	6.85	7.03	7.21	7.44
15.034	6.44	6.86	7.04	7.22	7.45
15.05	6.44	6.87	7.05	7.23	7.46
15.067	6.45	6.87	7.05	7.24	7.47
15.084	6.45	6.88	7.06	7.25	7.48
15.1	6.46	6.88	7.07	7.25	7.49
15.117	6.46	6.89	7.07	7.26	7.49
15.134	6.46	6.89	7.08	7.27	7.5
15.15	6.47	6.9	7.09	7.28	7.51
15.167	6.47	6.9	7.09	7.29	7.52
15.184	6.48	6.91	7.1	7.29	7.53
15.2	6.48	6.91	7.1	7.3	7.54
15.217	6.48	6.92	7.11	7.31	7.55
15.234	6.49	6.92	7.12	7.32	7.56
15.25	6.49	6.93	7.12	7.32	7.57
15.267	6.5	6.94	7.13	7.33	7.58
15.284	6.5	6.94	7.14	7.34	7.59
15.3	6.5	6.95	7.14	7.35	7.6
15.317	6.51	6.95	7.15	7.36	7.61
15.334	6.51	6.96	7.16	7.36	7.61
15.35	6.51	6.96	7.16	7.37	7.62
15.367	6.52	6.97	7.17	7.38	7.63
15.384	6.52	6.97	7.18	7.39	7.64
15.4	6.53	6.98	7.18	7.4	7.65
15.417	6.53	6.98	7.19	7.4	7.66
15.434	6.53	6.99	7.2	7.41	7.67
15.45	6.54	7	7.2	7.42	7.68
15.467	6.54	7	7.21	7.43	7.69
15.484	6.54	7.01	7.22	7.43	7.7
15.5	6.55	7.01	7.22	7.44	7.71
15.517	6.55	7.02	7.23	7.45	7.71
15.534	6.56	7.02	7.24	7.46	7.72
15.55	6.56	7.03	7.24	7.47	7.73
15.567	6.56	7.03	7.25	7.47	7.74
15.584	6.57	7.04	7.26	7.48	7.75
15.6	6.57	7.04	7.26	7.49	7.76
15.617	6.57	7.05	7.27	7.5	7.77
15.634	6.58	7.05	7.28	7.5	7.78
15.65	6.58	7.06	7.28	7.51	7.79
15.667	6.58	7.07	7.29	7.52	7.8
15.684	6.59	7.07	7.3	7.53	7.8
15.7	6.59	7.08	7.3	7.54	7.81
15.717	6.59	7.08	7.31	7.54	7.82
15.734	6.6	7.09	7.32	7.55	7.83

15.75	6.6	7.09	7.32	7.56	7.84
15.767	6.6	7.1	7.33	7.57	7.85
15.784	6.61	7.1	7.34	7.57	7.86
15.8	6.61	7.11	7.34	7.58	7.87
15.817	6.61	7.11	7.35	7.59	7.87
15.834	6.62	7.12	7.36	7.6	7.88
15.85	6.62	7.12	7.36	7.6	7.89
15.867	6.62	7.13	7.37	7.61	7.9
15.884	6.63	7.13	7.38	7.62	7.91
15.9	6.63	7.14	7.38	7.63	7.92
15.917	6.63	7.14	7.39	7.63	7.93
15.934	6.64	7.15	7.39	7.64	7.94
15.95	6.64	7.16	7.4	7.65	7.94
15.967	6.64	7.16	7.41	7.66	7.95
15.984	6.65	7.17	7.41	7.66	7.96
16	6.65	7.17	7.42	7.67	7.97
16.084	6.67	7.2	7.45	7.71	8.01
16.167	6.68	7.22	7.49	7.75	8.06
16.25	6.7	7.25	7.52	7.78	8.1
16.334	6.71	7.28	7.55	7.82	8.14
16.417	6.73	7.3	7.58	7.86	8.18
16.5	6.74	7.33	7.61	7.89	8.22
16.584	6.76	7.36	7.64	7.93	8.27
16.667	6.77	7.38	7.67	7.97	8.31
16.75	6.79	7.41	7.7	8	8.35
16.834	6.8	7.43	7.74	8.04	8.39
16.917	6.81	7.46	7.77	8.07	8.43
17	6.83	7.49	7.8	8.11	8.47
17.084	6.84	7.51	7.83	8.14	8.51
17.167	6.85	7.54	7.86	8.18	8.55
17.25	6.87	7.56	7.89	8.21	8.59
17.334	6.88	7.59	7.92	8.25	8.63
17.417	6.89	7.61	7.95	8.28	8.66
17.5	6.91	7.64	7.98	8.32	8.7
17.584	6.92	7.66	8.01	8.35	8.74
17.667	6.93	7.69	8.04	8.38	8.78
17.75	6.94	7.71	8.07	8.42	8.81
17.834	6.96	7.73	8.1	8.45	8.85
17.917	6.97	7.76	8.13	8.48	8.89
18	6.98	7.78	8.16	8.51	8.92
18.084	6.99	7.81	8.19	8.54	8.96
18.167	7	7.83	8.21	8.57	8.99
18.25	7.01	7.86	8.24	8.6	9.02
18.334	7.03	7.88	8.27	8.63	9.06
18.417	7.04	7.9	8.29	8.66	9.09
18.5	7.05	7.93	8.32	8.69	9.12
18.584	7.06	7.95	8.34	8.72	9.15
18.667	7.07	7.97	8.37	8.75	9.18
18.75	7.08	8	8.39	8.78	9.21
18.834	7.09	8.02	8.42	8.8	9.24
18.917	7.1	8.04	8.44	8.83	9.27
19	7.11	8.06	8.47	8.86	9.3
19.084	7.13	8.08	8.49	8.88	9.32
19.167	7.14	8.1	8.51	8.91	9.35
19.25	7.15	8.12	8.53	8.93	9.37

19.334	7.16	8.14	8.55	8.96	9.4
19.417	7.17	8.16	8.58	8.98	9.42
19.5	7.18	8.18	8.6	9	9.44
19.584	7.19	8.19	8.62	9.03	9.46
19.667	7.2	8.21	8.64	9.05	9.48
19.75	7.21	8.23	8.66	9.07	9.5
19.834	7.22	8.24	8.67	9.09	9.52
19.917	7.23	8.26	8.69	9.11	9.54
20	7.23	8.28	8.71	9.13	9.56
20.25	7.26	8.32	8.76	9.19	9.61
20.5	7.29	8.36	8.81	9.24	9.65
20.75	7.31	8.4	8.86	9.29	9.7
21	7.33	8.43	8.9	9.33	9.74
21.25	7.35	8.47	8.93	9.36	9.77
21.5	7.37	8.49	8.97	9.4	9.81
21.75	7.39	8.52	9	9.43	9.84
22	7.4	8.54	9.03	9.45	9.86
22.25	7.42	8.56	9.05	9.48	9.89
22.5	7.43	8.58	9.07	9.5	9.91
22.75	7.44	8.59	9.09	9.51	9.93
23	7.45	8.61	9.1	9.53	9.95
23.25	7.46	8.62	9.12	9.54	9.97
23.5	7.47	8.62	9.13	9.55	9.99
23.75	7.47	8.63	9.13	9.56	10
24	7.47	8.63	9.14	9.57	10.01
24.5	7.48	8.64	9.14	9.58	10.03
25	7.47	8.63	9.14	9.58	10.04
25.5	7.46	8.62	9.13	9.58	10.04
26	7.45	8.6	9.11	9.57	10.04
26.5	7.43	8.57	9.09	9.55	10.03
27	7.41	8.53	9.05	9.53	10.02
27.5	7.38	8.49	9.01	9.5	10
28	7.35	8.45	8.97	9.46	9.97
28.5	7.31	8.4	8.91	9.42	9.94
29	7.28	8.34	8.85	9.37	9.9
29.5	7.24	8.28	8.79	9.31	9.86
30	7.2	8.22	8.73	9.25	9.81
30.5	7.15	8.15	8.66	9.17	9.76
31	7.11	8.08	8.58	9.1	9.7
31.5	7.07	8.01	8.51	9.02	9.64
32	7.02	7.94	8.43	8.93	9.57
32.5	6.98	7.87	8.35	8.85	9.5
33	6.93	7.8	8.27	8.76	9.42
33.5	6.89	7.72	8.19	8.67	9.34
34	6.84	7.65	8.11	8.59	9.25
34.5	6.8	7.58	8.03	8.5	9.16
35	6.75	7.52	7.95	8.41	9.06
35.5	6.7	7.45	7.87	8.32	8.97
36	6.65	7.39	7.8	8.24	8.87
36.5	6.6	7.32	7.72	8.15	8.78
37	6.55	7.26	7.65	8.07	8.68
37.5	6.5	7.2	7.58	7.99	8.59
38	6.44	7.14	7.51	7.91	8.5
38.5	6.39	7.09	7.44	7.83	8.4
39	6.33	7.03	7.38	7.76	8.31

39.5	6.27	6.98	7.31	7.68	8.23
40	6.19	6.93	7.25	7.61	8.14
40.5	6.12	6.88	7.19	7.54	8.06
41	6.03	6.82	7.13	7.47	7.97
41.5	5.92	6.77	7.08	7.4	7.89
42	5.78	6.72	7.02	7.34	7.81
42.5	5.61	6.67	6.97	7.27	7.73
43	5.45	6.62	6.91	7.21	7.66
43.5	5.3	6.57	6.86	7.15	7.58
44	5.16	6.51	6.81	7.09	7.51
44.5	5.02	6.46	6.76	7.04	7.44
45	4.9	6.4	6.71	6.98	7.38
45.5	4.79	6.35	6.66	6.93	7.31
46	4.68	6.28	6.6	6.88	7.25
46.5	4.57	6.21	6.55	6.82	7.19
47	4.48	6.13	6.5	6.77	7.13
47.5	4.41	6.04	6.44	6.72	7.07
48	4.34	5.93	6.38	6.67	7.01
49	4.22	5.65	6.26	6.56	6.9
50	4.12	5.34	6.1	6.45	6.8
51	4.01	5.09	5.89	6.34	6.69
52	3.89	4.87	5.58	6.19	6.59
53	3.78	4.67	5.28	6.02	6.47
54	3.68	4.48	5.01	5.75	6.36
55	3.6	4.29	4.78	5.41	6.22
56	3.57	4.1	4.56	5.11	6.05
57	3.55	3.93	4.36	4.83	5.8
58	3.54	3.81	4.16	4.59	5.44
59	3.54	3.88	4.08	4.4	5.1
60	3.55	3.94	4.05	4.26	4.82
61	3.58	3.9	3.99	4.15	4.6
62	3.56	3.83	3.92	4.04	4.41
63	3.54	3.75	3.84	3.93	4.23
64	3.54	3.66	3.75	3.83	4.05
65	3.53	3.59	3.65	3.73	3.89
66	3.53	3.56	3.59	3.63	3.76
67	3.52	3.55	3.56	3.58	3.65
68	3.52	3.54	3.55	3.56	3.59
69	3.51	3.53	3.54	3.55	3.56
70	3.51	3.53	3.53	3.54	3.55
71	3.51	3.53	3.53	3.53	3.54
72	3.51	3.52	3.53	3.54	3.58

SECTION 8 CHURCH CREEK ICPR MODEL RESULTS

8.1 HYDROLOGIC RESULTS

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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Church Creek Watershed
Existing Conditions
09/26/01

***** Basin Summary - 2YR *****

Basin Name:	B-A030	B-A040	B-A041	B-A060	B-A100
Group Name:	RR	RR	RR	RR	RR
Node Name:	N-A030	N-A040	N-A040	N-A060	N-A100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	39.99	36.66	35.99	17.73	17.20
Comp Time Inc (min):	15.00	15.00	15.00	15.00	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	300.00	275.00	270.00	133.00	129.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	536.70	402.60	388.40	62.80	52.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	83.00	85.00	76.00	82.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	15.75	15.50	15.25	13.50	13.50
Flow Max (cfs):	163.42	126.32	132.37	25.80	27.70
Runoff Volume (in):	2.91	2.81	3.00	2.21	2.72
Runoff Volume (cf):	5662045	4112398	4228557	503205	513524

Basin Name:	B-A120	B-A140	B-B020	B-B040	B-B060
Group Name:	RR	RR	HH	HH	HH
Node Name:	N-A120	N-A140	N-B020	N-B040	N-B060
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	18.00	34.66	18.40	3.60	25.99
Comp Time Inc (min):	15.00	15.00	15.00	3.60	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	135.00	260.00	138.00	27.00	195.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	99.30	348.50	93.40	9.10	107.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	79.00	85.00	88.00	76.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	13.50	15.25	13.50	12.36	14.50
Flow Max (cfs):	52.92	98.71	52.34	16.04	33.47
Runoff Volume (in):	2.81	2.46	3.00	3.29	2.21
Runoff Volume (cf):	1013662	3112077	1016933	108737	863312

Basin Name:	B-B100	B-B140	B-B160	B-B170	B-B230
Group Name:	HH	HH	HH	HH	HH
Node Name:	N-B100	N-B140	N-B160	N-B170	N-B230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	11.60	27.19	10.13	4.13	4.27
Comp Time Inc (min):	11.60	15.00	10.13	4.13	4.27
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	87.00	204.00	76.00	31.00	32.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	26.30	90.20	37.90	16.60	25.20
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	78.00	79.00	83.00	87.00	89.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.95	14.50	12.84	12.40	12.44
Flow Max (cfs):	15.92	30.66	30.41	26.45	41.61
Runoff Volume (in):	2.38	2.46	2.82	3.19	3.39
Runoff Volume (cf):	226817	805604	387307	192378	310134

Basin Name:	B-C010	B-C050	B-C080	B-C120	B-C130
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C010	N-C050	N-C080	N-C120	N-C130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.93	6.80	15.46	13.33	5.33
Comp Time Inc (min):	6.93	6.80	15.00	13.33	5.33
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	52.00	51.00	116.00	100.00	40.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	27.60	7.60	84.50	60.70	40.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	80.00	81.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.58	13.25	13.11	12.53
Flow Max (cfs):	28.79	7.23	46.72	41.66	49.54
Runoff Volume (in):	2.81	2.55	2.63	2.91	2.82
Runoff Volume (cf):	281837	70217	807969	640748	414988

Basin Name:	B-C140	B-C150	B-C170	B-C190	B-C230
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C140	N-C150	N-C170	N-C190	N-C230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Comp Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	37.00	88.00	61.00	48.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	12.20	36.10	101.20	23.50	48.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	78.00	82.00	82.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	13.10	12.74	12.59	12.38
Flow Max (cfs):	16.66	21.74	91.28	24.89	74.04
Runoff Volume (in):	3.00	2.37	2.72	2.73	2.91
Runoff Volume (cf):	132817	310851	1001004	232466	506419

Basin Name:	B-C270	B-D010	B-D020	B-D030	B-D050
Group Name:	SM1	SM2	SM2	SM2	SM2
Node Name:	N-C270	N-D010	N-D020	N-D030	N-D050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	10.80	13.73	9.86	11.20	4.40
Comp Time Inc (min):	10.80	13.73	9.87	11.20	4.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	81.00	103.00	74.00	84.00	33.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	35.70	23.10	30.50	56.50	22.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	76.00	81.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.96	13.28	12.83	12.88	12.47
Flow Max (cfs):	21.95	11.45	23.24	46.62	33.79
Runoff Volume (in):	2.29	2.20	2.63	3.09	3.10
Runoff Volume (cf):	296916	184879	291256	634367	253999

Basin Name:	B-D080	B-D110	B-D130	B-D131	B-D132
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D080	N-D110	N-D130	N-D130	N-D130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	5.07	5.73	9.46	12.80	12.40
Comp Time Inc (min):	5.07	5.73	9.47	12.80	12.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	38.00	43.00	71.00	96.00	93.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.80	29.80	15.60	24.90	46.30
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	85.00	63.00	80.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.52	12.78	13.23	13.02
Flow Max (cfs):	8.89	36.21	14.02	6.58	28.92
Runoff Volume (in):	2.91	2.91	3.00	1.26	2.55
Runoff Volume (cf):	71765	314510	169942	113882	428101

Basin Name:	B-D140	B-D160	B-D190	B-D210	B-D220
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D140	N-D160	N-D190	N-D210	N-D220
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	8.26	5.60	3.07	7.20	6.00
Comp Time Inc (min):	8.27	5.60	3.07	7.20	6.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	62.00	42.00	23.00	54.00	45.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	19.80	76.40	5.70	18.53	11.75
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	86.00	86.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.68	12.51	12.37	12.60	12.60
Flow Max (cfs):	18.92	100.06	10.21	18.88	13.26
Runoff Volume (in):	2.91	3.10	3.10	2.82	2.82
Runoff Volume (cf):	208942	858716	64055	189403	120101

Basin Name:	B-E010	B-E020	B-E030	B-E040	B-E050
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E010	N-E020	N-E030	N-E040	N-E050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	29.99	2.40	3.20	3.87	2.67
Comp Time Inc (min):	15.00	2.40	3.20	3.87	2.67
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	225.00	18.00	24.00	29.00	20.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	223.40	5.75	6.47	20.89	14.49
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	72.00	85.00	85.00	85.00	85.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	15.00	12.32	12.37	12.37	12.31
Flow Max (cfs):	52.50	11.20	11.06	32.56	26.91
Runoff Volume (in):	1.89	3.00	3.00	3.00	3.00
Runoff Volume (cf):	1536297	62652	70497	227546	157882

Basin Name:	B-E060	B-E070	B-E080	B-E090	B-E100
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E060	N-E070	N-E080	N-E090	N-E100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.73	2.27	2.13	6.53	7.06
Comp Time Inc (min):	1.73	2.27	2.13	6.53	7.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	13.00	17.00	16.00	49.00	53.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.25	5.64	7.61	14.98	18.64
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	84.00	84.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.28	12.32	12.30	12.63	12.60
Flow Max (cfs):	9.28	10.93	15.07	16.62	19.20
Runoff Volume (in):	3.00	2.91	2.91	2.91	2.81
Runoff Volume (cf):	46296	59528	80331	158045	190316

Basin Name:	B-E110	B-E120	B-E130	B-E140	B-E150
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E110	N-E120	N-E130	N-E140	N-E150
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Comp Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	45.00	25.00	20.00	25.00	23.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	13.04	4.37	3.57	5.37	2.97
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	82.00	83.00	81.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.39	12.31	12.39	12.37
Flow Max (cfs):	14.72	6.68	6.25	7.95	4.88
Runoff Volume (in):	2.82	2.73	2.82	2.64	2.81
Runoff Volume (cf):	133287	43229	36490	51381	30347

Basin Name:	B-E160	B-E170	B-E180	B-E190	B-E200
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E160	N-E170	N-E180	N-E190	N-E200
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Comp Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	29.00	38.00	26.00	30.00	15.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	3.97	9.21	3.20	5.10	6.45
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	83.00	83.00	83.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.37	12.50	12.36	12.40	12.30
Flow Max (cfs):	5.81	11.67	4.97	7.34	13.07
Runoff Volume (in):	2.81	2.82	2.82	2.82	2.91
Runoff Volume (cf):	40566	94119	32700	52129	68086

Basin Name:	B-E210	B-E220	B-E230	B-E231	B-E240
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E210	N-E220	N-E230	N-E230	N-E240
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Comp Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	15.00	30.00	47.00	12.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	2.15	6.73	20.10	4.00	4.48
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	84.00	79.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.27	12.30	12.40	12.53	12.27
Flow Max (cfs):	4.91	13.63	29.86	3.83	9.77
Runoff Volume (in):	2.91	2.91	2.91	2.46	2.91
Runoff Volume (cf):	22695	71042	212175	35705	47291

Basin Name:	B-E250	B-E251	B-E252	B-E260	B-E270
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E250	N-E250	N-E250	N-E260	N-E270
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.67	18.93	19.33	43.99	6.53
Comp Time Inc (min):	2.67	15.00	15.00	15.00	6.53
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	20.00	142.00	145.00	330.00	49.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	5.35	59.00	58.00	743.90	7.94
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	79.00	79.00	77.00	81.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.31	13.75	13.75	16.25	12.63
Flow Max (cfs):	9.65	26.22	25.39	162.89	7.98
Runoff Volume (in):	2.91	2.46	2.46	2.29	2.63
Runoff Volume (cf):	56474	527216	517892	6188418	75929

Basin Name:	B-F010	B-F030	B-F040	B-F060	B-F080
Group Name:	MC	MC	MC	MC	MC
Node Name:	N-F010	N-F030	N-F040	N-F060	N-F080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Comp Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	49.00	30.00	13.00	20.00	38.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	43.19	16.46	4.84	24.34	7.55
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	86.00	86.00	72.00	73.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.63	12.40	12.28	12.36	12.50
Flow Max (cfs):	50.92	25.95	10.85	28.47	6.54
Runoff Volume (in):	3.10	3.10	3.10	1.90	1.97
Runoff Volume (cf):	485271	185035	54395	167465	54038

Basin Name:	B-G020	B-G050	B-G060	B-G070	B-G080
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G020	N-G050	N-G060	N-G070	N-G080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	27.99	23.99	3.07	2.13	1.87
Comp Time Inc (min):	15.00	15.00	3.07	2.13	1.87
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	210.00	180.00	23.00	16.00	14.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	182.80	76.10	6.22	2.37	5.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	77.00	86.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	14.75	14.25	12.37	12.30	12.29
Flow Max (cfs):	55.96	26.18	11.14	4.96	11.58
Runoff Volume (in):	2.29	2.29	3.10	3.10	3.10
Runoff Volume (cf):	1519893	632674	69899	26642	59458

Basin Name:	B-G090	B-G180	B-G110	B-G120	B-G130
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G090	N-G180	N-G110	N-G120	N-G130
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.53	33.33	1.73	3.20	3.73
Comp Time Inc (min):	2.53	15.00	1.73	3.20	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.00	250.00	13.00	24.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	7.38	317.90	7.36	7.88	11.79
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	74.00	85.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.33	15.25	12.28	12.37	12.38
Flow Max (cfs):	14.43	75.59	16.08	12.69	17.63
Runoff Volume (in):	3.10	2.05	3.00	2.82	2.81
Runoff Volume (cf):	82945	2365312	80174	80545	120445

Basin Name:	B-G140	B-G150	B-G160	B-G181
Group Name:	BL	BL	BL	BL
Node Name:	N-G140	N-G150	N-G160	N-G180
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.60	16.40	2.40	29.33
Comp Time Inc (min):	3.60	15.00	2.40	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	4.60	4.60	4.60	4.60
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	27.00	123.00	18.00	220.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	4.86	37.00	3.69	202.50
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	81.00	79.00	86.00	72.00
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	12.36	13.50	12.32	14.75
Flow Max (cfs):	6.93	18.26	7.39	48.31
Runoff Volume (in):	2.64	2.46	3.10	1.89
Runoff Volume (cf):	46501	330206	41481	1392023

***** Basin Summary - 10YR *****

Basin Name:	B-A030	B-A040	B-A041	B-A060	B-A100
Group Name:	RR	RR	RR	RR	RR
Node Name:	N-A030	N-A040	N-A040	N-A060	N-A100
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	39.99	36.66	35.99	17.73	17.20
Comp Time Inc (min):	15.00	15.00	15.00	15.00	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	300.00	275.00	270.00	133.00	129.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	536.70	402.60	388.40	62.80	52.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	83.00	85.00	76.00	82.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	15.75	15.25	15.25	13.50	13.50
Flow Max (cfs):	279.56	218.90	224.26	49.01	48.48
Runoff Volume (in):	4.95	4.84	5.06	4.08	4.72
Runoff Volume (cf):	9642397	7070642	7133530	928993	891524

Basin Name:	B-A120	B-A140	B-B020	B-B040	B-B060
Group Name:	RR	RR	HH	HH	HH
Node Name:	N-A120	N-A140	N-B020	N-B040	N-B060
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	18.00	34.66	18.40	3.60	25.99
Comp Time Inc (min):	15.00	15.00	15.00	3.60	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	135.00	260.00	138.00	27.00	195.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	99.30	348.50	93.40	9.10	107.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	79.00	85.00	88.00	76.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	13.50	15.25	13.50	12.36	14.25
Flow Max (cfs):	91.69	179.22	88.63	25.82	63.19
Runoff Volume (in):	4.84	4.40	5.06	5.40	4.08
Runoff Volume (cf):	1742838	5567103	1715554	178430	1593805

Basin Name:	B-B100	B-B140	B-B160	B-B170	B-B230
Group Name:	HH	HH	HH	HH	HH
Node Name:	N-B100	N-B140	N-B160	N-B170	N-B230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	11.60	27.19	10.13	4.13	4.27
Comp Time Inc (min):	11.60	15.00	10.13	4.13	4.27
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	87.00	204.00	76.00	31.00	32.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	26.30	90.20	37.90	16.60	25.20
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	78.00	79.00	83.00	87.00	89.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.95	14.50	12.84	12.40	12.44
Flow Max (cfs):	29.35	55.73	52.42	43.07	66.25
Runoff Volume (in):	4.29	4.40	4.84	5.29	5.51
Runoff Volume (cf):	409969	1441121	665930	318581	504342

Basin Name:	B-C010	B-C050	B-C080	B-C120	B-C130
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C010	N-C050	N-C080	N-C120	N-C130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.93	6.80	15.46	13.33	5.33
Comp Time Inc (min):	6.93	6.80	15.00	13.33	5.33
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	52.00	51.00	116.00	100.00	40.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	27.60	7.60	84.50	60.70	40.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	80.00	81.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.58	13.25	13.11	12.53
Flow Max (cfs):	49.38	12.88	83.00	71.09	84.42
Runoff Volume (in):	4.84	4.51	4.62	4.95	4.84
Runoff Volume (cf):	484619	124357	1416562	1091188	713510

Basin Name:	B-C140	B-C150	B-C170	B-C190	B-C230
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C140	N-C150	N-C170	N-C190	N-C230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Comp Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	37.00	88.00	61.00	48.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	12.20	36.10	101.20	23.50	48.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	78.00	82.00	82.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	13.10	12.74	12.59	12.38
Flow Max (cfs):	27.73	39.79	158.40	43.11	124.49
Runoff Volume (in):	5.06	4.29	4.73	4.73	4.95
Runoff Volume (cf):	224077	561958	1737846	403582	862468

Basin Name:	B-C270	B-D010	B-D020	B-D030	B-D050
Group Name:	SM1	SM2	SM2	SM2	SM2
Node Name:	N-C270	N-D010	N-D020	N-D030	N-D050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	10.80	13.73	9.86	11.20	4.40
Comp Time Inc (min):	10.80	13.73	9.87	11.20	4.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	81.00	103.00	74.00	84.00	33.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	35.70	23.10	30.50	56.50	22.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	76.00	81.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.96	13.28	12.83	12.88	12.39
Flow Max (cfs):	40.84	21.57	41.05	77.71	55.60
Runoff Volume (in):	4.19	4.07	4.61	5.17	5.17
Runoff Volume (cf):	542368	341425	510742	1060340	424523

Basin Name:	B-D080	B-D110	B-D130	B-D131	B-D132
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D080	N-D110	N-D130	N-D130	N-D130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	5.07	5.73	9.46	12.80	12.40
Comp Time Inc (min):	5.07	5.73	9.47	12.80	12.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	38.00	43.00	71.00	96.00	93.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.80	29.80	15.60	24.90	46.30
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	85.00	63.00	80.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.52	12.78	13.23	13.02
Flow Max (cfs):	14.98	61.21	23.57	15.73	51.92
Runoff Volume (in):	4.95	4.95	5.06	2.75	4.51
Runoff Volume (cf):	122218	535616	286695	248458	758118

Basin Name:	B-D140	B-D160	B-D190	B-D210	B-D220
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D140	N-D160	N-D190	N-D210	N-D220
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	8.26	5.60	3.07	7.20	6.00
Comp Time Inc (min):	8.27	5.60	3.07	7.20	6.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	62.00	42.00	23.00	54.00	45.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	19.80	76.40	5.70	18.53	11.75
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	86.00	86.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.68	12.51	12.32	12.60	12.50
Flow Max (cfs):	32.16	165.24	16.74	32.43	22.74
Runoff Volume (in):	4.95	5.18	5.17	4.84	4.84
Runoff Volume (cf):	355836	1435211	107060	325649	206496

Basin Name:	B-E010	B-E020	B-E030	B-E040	B-E050
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E010	N-E020	N-E030	N-E040	N-E050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	29.99	2.40	3.20	3.87	2.67
Comp Time Inc (min):	15.00	2.40	3.20	3.87	2.67
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	225.00	18.00	24.00	29.00	20.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	223.40	5.75	6.47	20.89	14.49
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	72.00	85.00	85.00	85.00	85.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	14.75	12.32	12.37	12.37	12.31
Flow Max (cfs):	105.08	18.48	18.31	54.21	44.55
Runoff Volume (in):	3.66	5.06	5.06	5.06	5.06
Runoff Volume (cf):	2967231	105693	118928	383878	266346

Basin Name:	B-E060	B-E070	B-E080	B-E090	B-E100
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E060	N-E070	N-E080	N-E090	N-E100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.73	2.27	2.13	6.53	7.06
Comp Time Inc (min):	1.73	2.27	2.13	6.53	7.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	13.00	17.00	16.00	49.00	53.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.25	5.64	7.61	14.98	18.64
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	84.00	84.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.28	12.32	12.30	12.63	12.60
Flow Max (cfs):	15.25	18.20	25.09	28.06	32.96
Runoff Volume (in):	5.06	4.95	4.95	4.95	4.84
Runoff Volume (cf):	78102	101377	136803	269161	327254

Basin Name:	B-E110	B-E120	B-E130	B-E140	B-E150
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E110	N-E120	N-E130	N-E140	N-E150
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Comp Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	45.00	25.00	20.00	25.00	23.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	13.04	4.37	3.57	5.37	2.97
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	82.00	83.00	81.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.39	12.31	12.39	12.37
Flow Max (cfs):	25.23	11.44	10.58	13.78	8.25
Runoff Volume (in):	4.84	4.73	4.84	4.62	4.84
Runoff Volume (cf):	229167	75049	62740	90083	52179

Basin Name:	B-E160	B-E170	B-E180	B-E190	B-E200
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E160	N-E170	N-E180	N-E190	N-E200
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Comp Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	29.00	38.00	26.00	30.00	15.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	3.97	9.21	3.20	5.10	6.45
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	83.00	83.00	83.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.37	12.50	12.36	12.40	12.30
Flow Max (cfs):	9.91	19.90	8.45	12.50	21.72
Runoff Volume (in):	4.84	4.84	4.84	4.84	4.95
Runoff Volume (cf):	69749	161826	56223	89628	115950

Basin Name:	B-E210	B-E220	B-E230	B-E231	B-E240
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E210	N-E220	N-E230	N-E230	N-E240
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Comp Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	15.00	30.00	47.00	12.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	2.15	6.73	20.10	4.00	4.48
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	84.00	79.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.27	12.30	12.40	12.53	12.27
Flow Max (cfs):	8.11	22.67	50.25	6.92	16.21
Runoff Volume (in):	4.95	4.95	4.95	4.40	4.95
Runoff Volume (cf):	38650	120984	361333	63878	80536

Basin Name:	B-E250	B-E251	B-E252	B-E260	B-E270
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E250	N-E250	N-E250	N-E260	N-E270
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.67	18.93	19.33	43.99	6.53
Comp Time Inc (min):	2.67	15.00	15.00	15.00	6.53
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	20.00	142.00	145.00	330.00	49.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	5.35	59.00	58.00	743.90	7.94
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	79.00	79.00	77.00	81.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.31	13.75	13.75	16.00	12.63
Flow Max (cfs):	16.16	47.56	46.11	302.55	13.96
Runoff Volume (in):	4.95	4.40	4.40	4.19	4.62
Runoff Volume (cf):	96175	943122	926442	11303137	133129

Basin Name:	B-F010	B-F030	B-F040	B-F060	B-F080
Group Name:	MC	MC	MC	MC	MC
Node Name:	N-F010	N-F030	N-F040	N-F060	N-F080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Comp Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	49.00	30.00	13.00	20.00	38.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	43.19	16.46	4.84	24.34	7.55
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	86.00	86.00	72.00	73.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.52	12.40	12.28	12.31	12.50
Flow Max (cfs):	84.06	42.69	17.65	55.50	12.78
Runoff Volume (in):	5.17	5.18	5.17	3.66	3.76
Runoff Volume (cf):	811080	309253	90913	323446	103162

Basin Name:	B-G020	B-G050	B-G060	B-G070	B-G080
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G020	N-G050	N-G060	N-G070	N-G080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	27.99	23.99	3.07	2.13	1.87
Comp Time Inc (min):	15.00	15.00	3.07	2.13	1.87
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	210.00	180.00	23.00	16.00	14.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	182.80	76.10	6.22	2.37	5.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	77.00	86.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	14.50	14.25	12.32	12.30	12.29
Flow Max (cfs):	104.61	48.79	18.26	8.08	18.84
Runoff Volume (in):	4.18	4.18	5.17	5.18	5.18
Runoff Volume (cf):	2776082	1155578	116827	44528	99376

Basin Name:	B-G090	B-G180	B-G110	B-G120	B-G130
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G090	N-G180	N-G110	N-G120	N-G130
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.53	33.33	1.73	3.20	3.73
Comp Time Inc (min):	2.53	15.00	1.73	3.20	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.00	250.00	13.00	24.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	7.38	317.90	7.36	7.88	11.79
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	74.00	85.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.33	15.00	12.28	12.37	12.38
Flow Max (cfs):	23.56	146.46	26.41	21.49	29.99
Runoff Volume (in):	5.17	3.87	5.06	4.84	4.84
Runoff Volume (cf):	138631	4464185	135255	138484	207098

Basin Name:	B-G140	B-G150	B-G160	B-G181
Group Name:	BL	BL	BL	BL
Node Name:	N-G140	N-G150	N-G160	N-G180
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.60	16.40	2.40	29.33
Comp Time Inc (min):	3.60	15.00	2.40	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	6.80	6.80	6.80	6.80
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	27.00	123.00	18.00	220.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	4.86	37.00	3.69	202.50
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	81.00	79.00	86.00	72.00
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	12.36	13.50	12.32	14.75
Flow Max (cfs):	12.10	33.11	12.06	96.70
Runoff Volume (in):	4.62	4.40	5.18	3.66
Runoff Volume (cf):	81528	590696	69328	2688577

***** Basin Summary - 25YR *****

Basin Name:	B-A030	B-A040	B-A041	B-A060	B-A100
Group Name:	RR	RR	RR	RR	RR
Node Name:	N-A030	N-A040	N-A040	N-A060	N-A100
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	39.99	36.66	35.99	17.73	17.20
Comp Time Inc (min):	15.00	15.00	15.00	15.00	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	300.00	275.00	270.00	133.00	129.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	536.70	402.60	388.40	62.80	52.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	83.00	85.00	76.00	82.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	15.50	15.25	15.25	13.50	13.50
Flow Max (cfs):	333.27	261.96	266.59	60.07	58.10
Runoff Volume (in):	5.90	5.79	6.02	4.97	5.66
Runoff Volume (cf):	11499237	8454775	8484847	1133121	1068936

Basin Name:	B-A120	B-A140	B-B020	B-B040	B-B060
Group Name:	RR	RR	HH	HH	HH
Node Name:	N-A120	N-A140	N-B020	N-B040	N-B060
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	18.00	34.66	18.40	3.60	25.99
Comp Time Inc (min):	15.00	15.00	15.00	3.60	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	135.00	260.00	138.00	27.00	195.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	99.30	348.50	93.40	9.10	107.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	79.00	85.00	88.00	76.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	13.50	15.25	13.50	12.36	14.25
Flow Max (cfs):	109.60	217.14	105.27	30.24	77.49
Runoff Volume (in):	5.78	5.32	6.02	6.38	4.98
Runoff Volume (cf):	2084011	6731006	2040536	210602	1944011

Basin Name:	B-B100	B-B140	B-B160	B-B170	B-B230
Group Name:	HH	HH	HH	HH	HH
Node Name:	N-B100	N-B140	N-B160	N-B170	N-B230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	11.60	27.19	10.13	4.13	4.27
Comp Time Inc (min):	11.60	15.00	10.13	4.13	4.27
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	87.00	204.00	76.00	31.00	32.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	26.30	90.20	37.90	16.60	25.20
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	78.00	79.00	83.00	87.00	89.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.95	14.50	12.84	12.40	12.44
Flow Max (cfs):	35.66	67.52	62.54	50.60	77.36
Runoff Volume (in):	5.21	5.32	5.79	6.26	6.49
Runoff Volume (cf):	497113	1742413	796295	376980	593787

Basin Name:	B-C010	B-C050	B-C080	B-C120	B-C130
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C010	N-C050	N-C080	N-C120	N-C130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.93	6.80	15.46	13.33	5.33
Comp Time Inc (min):	6.93	6.80	15.00	13.33	5.33
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	52.00	51.00	116.00	100.00	40.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	27.60	7.60	84.50	60.70	40.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	80.00	81.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.58	13.25	13.11	12.53
Flow Max (cfs):	58.83	15.51	99.87	84.60	100.39
Runoff Volume (in):	5.78	5.43	5.55	5.91	5.79
Runoff Volume (cf):	579502	149935	1703125	1301318	853186

Basin Name:	B-C140	B-C150	B-C170	B-C190	B-C230
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C140	N-C150	N-C170	N-C190	N-C230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Comp Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	37.00	88.00	61.00	48.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	12.20	36.10	101.20	23.50	48.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	78.00	82.00	82.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.91	12.74	12.59	12.38
Flow Max (cfs):	32.76	48.30	189.30	51.49	147.48
Runoff Volume (in):	6.02	5.20	5.67	5.67	5.90
Runoff Volume (cf):	266530	681443	2083679	483893	1028567

Basin Name:	B-C270	B-D010	B-D020	B-D030	B-D050
Group Name:	SM1	SM2	SM2	SM2	SM2
Node Name:	N-C270	N-D010	N-D020	N-D030	N-D050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	10.80	13.73	9.86	11.20	4.40
Comp Time Inc (min):	10.80	13.73	9.87	11.20	4.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	81.00	103.00	74.00	84.00	33.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	35.70	23.10	30.50	56.50	22.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	76.00	81.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.96	13.28	12.83	12.88	12.39
Flow Max (cfs):	49.74	26.37	49.30	91.89	65.55
Runoff Volume (in):	5.09	4.97	5.55	6.13	6.14
Runoff Volume (cf):	659593	416484	614096	1257963	503633

Basin Name:	B-D080	B-D110	B-D130	B-D131	B-D132
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D080	N-D110	N-D130	N-D130	N-D130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	5.07	5.73	9.46	12.80	12.40
Comp Time Inc (min):	5.07	5.73	9.47	12.80	12.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	38.00	43.00	71.00	96.00	93.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.80	29.80	15.60	24.90	46.30
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	85.00	63.00	80.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.52	12.78	13.23	13.02
Flow Max (cfs):	17.76	72.62	27.94	20.42	62.64
Runoff Volume (in):	5.90	5.90	6.02	3.51	5.44
Runoff Volume (cf):	145754	638763	341007	317096	914034

Basin Name:	B-D140	B-D160	B-D190	B-D210	B-D220
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D140	N-D160	N-D190	N-D210	N-D220
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	8.26	5.60	3.07	7.20	6.00
Comp Time Inc (min):	8.27	5.60	3.07	7.20	6.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	62.00	42.00	23.00	54.00	45.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	19.80	76.40	5.70	18.53	11.75
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	86.00	86.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.68	12.51	12.32	12.60	12.50
Flow Max (cfs):	38.22	194.85	19.71	38.65	27.09
Runoff Volume (in):	5.90	6.14	6.14	5.79	5.79
Runoff Volume (cf):	424363	1702662	127011	389397	246919

Basin Name:	B-E010	B-E020	B-E030	B-E040	B-E050
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E010	N-E020	N-E030	N-E040	N-E050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	29.99	2.40	3.20	3.87	2.67
Comp Time Inc (min):	15.00	2.40	3.20	3.87	2.67
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	225.00	18.00	24.00	29.00	20.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	223.40	5.75	6.47	20.89	14.49
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	72.00	85.00	85.00	85.00	85.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	14.75	12.32	12.37	12.37	12.31
Flow Max (cfs):	130.75	21.78	21.60	64.06	52.56
Runoff Volume (in):	4.52	6.02	6.02	6.02	6.02
Runoff Volume (cf):	3664717	125715	141457	456601	316801

Basin Name:	B-E060	B-E070	B-E080	B-E090	B-E100
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E060	N-E070	N-E080	N-E090	N-E100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.73	2.27	2.13	6.53	7.06
Comp Time Inc (min):	1.73	2.27	2.13	6.53	7.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	13.00	17.00	16.00	49.00	53.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.25	5.64	7.61	14.98	18.64
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	84.00	84.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.28	12.32	12.30	12.52	12.60
Flow Max (cfs):	17.96	21.50	29.64	33.29	39.27
Runoff Volume (in):	6.02	5.91	5.91	5.90	5.78
Runoff Volume (cf):	92898	120899	163147	320998	391327

Basin Name:	B-E110	B-E120	B-E130	B-E140	B-E150
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E110	N-E120	N-E130	N-E140	N-E150
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Comp Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	45.00	25.00	20.00	25.00	23.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	13.04	4.37	3.57	5.37	2.97
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	82.00	83.00	81.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.33	12.31	12.33	12.32
Flow Max (cfs):	30.06	13.65	12.56	16.47	9.80
Runoff Volume (in):	5.79	5.67	5.79	5.56	5.79
Runoff Volume (cf):	274028	89984	75021	108307	62394

Basin Name:	B-E160	B-E170	B-E180	B-E190	B-E200
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E160	N-E170	N-E180	N-E190	N-E200
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Comp Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	29.00	38.00	26.00	30.00	15.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	3.97	9.21	3.20	5.10	6.45
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	83.00	83.00	83.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.37	12.50	12.36	12.40	12.30
Flow Max (cfs):	11.78	23.66	10.04	14.86	25.66
Runoff Volume (in):	5.79	5.79	5.79	5.79	5.91
Runoff Volume (cf):	83403	193506	67230	107174	138279

Basin Name:	B-E210	B-E220	B-E230	B-E231	B-E240
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E210	N-E220	N-E230	N-E230	N-E240
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Comp Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	15.00	30.00	47.00	12.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	2.15	6.73	20.10	4.00	4.48
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	84.00	79.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.24	12.30	12.40	12.53	12.27
Flow Max (cfs):	9.57	26.77	59.54	8.36	19.13
Runoff Volume (in):	5.91	5.91	5.91	5.32	5.91
Runoff Volume (cf):	46093	144281	430914	77236	96045

Basin Name:	B-E250	B-E251	B-E252	B-E260	B-E270
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E250	N-E250	N-E250	N-E260	N-E270
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.67	18.93	19.33	43.99	6.53
Comp Time Inc (min):	2.67	15.00	15.00	15.00	6.53
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	20.00	142.00	145.00	330.00	49.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	5.35	59.00	58.00	743.90	7.94
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	79.00	79.00	77.00	81.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.31	13.75	13.75	16.00	12.63
Flow Max (cfs):	19.12	57.57	55.83	369.40	16.73
Runoff Volume (in):	5.91	5.32	5.32	5.09	5.55
Runoff Volume (cf):	114696	1140298	1120131	13745780	160062

Basin Name:	B-F010	B-F030	B-F040	B-F060	B-F080
Group Name:	MC	MC	MC	MC	MC
Node Name:	N-F010	N-F030	N-F040	N-F060	N-F080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Comp Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	49.00	30.00	13.00	20.00	38.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	43.19	16.46	4.84	24.34	7.55
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	86.00	86.00	72.00	73.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.52	12.40	12.28	12.31	12.50
Flow Max (cfs):	99.25	50.28	20.72	68.52	15.75
Runoff Volume (in):	6.14	6.14	6.14	4.52	4.63
Runoff Volume (cf):	962231	366880	107855	399477	127004

Basin Name:	B-G020	B-G050	B-G060	B-G070	B-G080
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G020	N-G050	N-G060	N-G070	N-G080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	27.99	23.99	3.07	2.13	1.87
Comp Time Inc (min):	15.00	15.00	3.07	2.13	1.87
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	210.00	180.00	23.00	16.00	14.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	182.80	76.10	6.22	2.37	5.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	77.00	86.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	14.50	14.25	12.32	12.30	12.29
Flow Max (cfs):	127.74	59.50	21.50	9.49	22.12
Runoff Volume (in):	5.09	5.09	6.14	6.14	6.14
Runoff Volume (cf):	3376006	1405303	138598	52825	117894

Basin Name:	B-G090	B-G180	B-G110	B-G120	B-G130
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G090	N-G180	N-G110	N-G120	N-G130
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.53	33.33	1.73	3.20	3.73
Comp Time Inc (min):	2.53	15.00	1.73	3.20	3.73
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	7.80	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.00	250.00	13.00	24.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	7.38	317.90	7.36	7.88	11.79
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	74.00	85.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.33	15.00	12.28	12.37	12.38
Flow Max (cfs):	27.70	180.88	31.09	25.51	35.64
Runoff Volume (in):	6.14	4.75	6.02	5.79	5.79
Runoff Volume (cf):	164464	5478541	160878	165594	247642

Basin Name:	B-G140	B-G150	B-G160	B-G181
Group Name:	BL	BL	BL	BL
Node Name:	N-G140	N-G150	N-G160	N-G180
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.60	16.40	2.40	29.33
Comp Time Inc (min):	3.60	15.00	2.40	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	7.80	7.80	7.80	7.80
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	27.00	123.00	18.00	220.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	4.86	37.00	3.69	202.50
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	81.00	79.00	86.00	72.00
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	12.36	13.50	12.32	14.75
Flow Max (cfs):	14.47	40.06	14.17	120.26
Runoff Volume (in):	5.56	5.32	6.14	4.52
Runoff Volume (cf):	98021	714191	82247	3320562

***** Basin Summary - 50YR *****

Basin Name:	B-A030	B-A040	B-A041	B-A060	B-A100
Group Name:	RR	RR	RR	RR	RR
Node Name:	N-A030	N-A040	N-A040	N-A060	N-A100
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	39.99	36.66	35.99	17.73	17.20
Comp Time Inc (min):	15.00	15.00	15.00	15.00	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	300.00	275.00	270.00	133.00	129.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	536.70	402.60	388.40	62.80	52.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	83.00	85.00	76.00	82.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	15.50	15.25	15.25	13.50	13.50
Flow Max (cfs):	387.52	305.27	309.06	71.29	67.76
Runoff Volume (in):	6.86	6.74	6.98	5.88	6.61
Runoff Volume (cf):	13373714	9853648	9847535	1341413	1248452

Basin Name:	B-A120	B-A140	B-B020	B-B040	B-B060
Group Name:	RR	RR	HH	HH	HH
Node Name:	N-A120	N-A140	N-B020	N-B040	N-B060
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	18.00	34.66	18.40	3.60	25.99
Comp Time Inc (min):	15.00	15.00	15.00	3.60	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	135.00	260.00	138.00	27.00	195.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	99.30	348.50	93.40	9.10	107.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	79.00	85.00	88.00	76.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	13.50	15.25	13.50	12.36	14.25
Flow Max (cfs):	127.57	255.48	121.94	34.64	92.02
Runoff Volume (in):	6.74	6.26	6.99	7.35	5.89
Runoff Volume (cf):	2428819	7913365	2368252	242950	2301361

Basin Name:	B-B100	B-B140	B-B160	B-B170	B-B230
Group Name:	HH	HH	HH	HH	HH
Node Name:	N-B100	N-B140	N-B160	N-B170	N-B230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	11.60	27.19	10.13	4.13	4.27
Comp Time Inc (min):	11.60	15.00	10.13	4.13	4.27
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	87.00	204.00	76.00	31.00	32.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	26.30	90.20	37.90	16.60	25.20
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	78.00	79.00	83.00	87.00	89.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.95	14.50	12.84	12.40	12.44
Flow Max (cfs):	42.03	79.44	72.67	58.10	88.43
Runoff Volume (in):	6.14	6.26	6.75	7.23	7.47
Runoff Volume (cf):	585768	2048483	928049	435753	683649

Basin Name:	B-C010	B-C050	B-C080	B-C120	B-C130
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C010	N-C050	N-C080	N-C120	N-C130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.93	6.80	15.46	13.33	5.33
Comp Time Inc (min):	6.93	6.80	15.00	13.33	5.33
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	52.00	51.00	116.00	100.00	40.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	27.60	7.60	84.50	60.70	40.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	80.00	81.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.58	13.25	13.11	12.53
Flow Max (cfs):	68.29	18.14	116.84	98.12	116.34
Runoff Volume (in):	6.74	6.38	6.50	6.87	6.75
Runoff Volume (cf):	675396	175885	1993453	1513444	994349

Basin Name:	B-C140	B-C150	B-C170	B-C190	B-C230
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C140	N-C150	N-C170	N-C190	N-C230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Comp Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	37.00	88.00	61.00	48.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	12.20	36.10	101.20	23.50	48.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	78.00	82.00	82.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.91	12.74	12.59	12.38
Flow Max (cfs):	37.78	56.97	220.25	59.88	170.43
Runoff Volume (in):	6.99	6.13	6.62	6.63	6.87
Runoff Volume (cf):	309341	803000	2433617	565158	1196245

Basin Name:	B-C270	B-D010	B-D020	B-D030	B-D050
Group Name:	SM1	SM2	SM2	SM2	SM2
Node Name:	N-C270	N-D010	N-D020	N-D030	N-D050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	10.80	13.73	9.86	11.20	4.40
Comp Time Inc (min):	10.80	13.73	9.87	11.20	4.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	81.00	103.00	74.00	84.00	33.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	35.70	23.10	30.50	56.50	22.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	76.00	81.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.96	13.28	12.83	12.88	12.39
Flow Max (cfs):	58.74	31.23	57.59	106.05	75.47
Runoff Volume (in):	6.01	5.88	6.49	7.10	7.11
Runoff Volume (cf):	779026	493077	718811	1457045	583327

Basin Name:	B-D080	B-D110	B-D130	B-D131	B-D132
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D080	N-D110	N-D130	N-D130	N-D130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	5.07	5.73	9.46	12.80	12.40
Comp Time Inc (min):	5.07	5.73	9.47	12.80	12.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	38.00	43.00	71.00	96.00	93.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.80	29.80	15.60	24.90	46.30
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	85.00	63.00	80.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.52	12.78	13.23	13.02
Flow Max (cfs):	20.53	84.03	32.29	25.32	73.42
Runoff Volume (in):	6.87	6.87	6.99	4.30	6.38
Runoff Volume (cf):	169515	742889	395775	388949	1072208

Basin Name:	B-D140	B-D160	B-D190	B-D210	B-D220
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D140	N-D160	N-D190	N-D210	N-D220
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	8.26	5.60	3.07	7.20	6.00
Comp Time Inc (min):	8.27	5.60	3.07	7.20	6.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	62.00	42.00	23.00	54.00	45.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	19.80	76.40	5.70	18.53	11.75
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	86.00	86.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.68	12.51	12.32	12.60	12.50
Flow Max (cfs):	44.28	224.37	22.66	44.87	31.44
Runoff Volume (in):	6.87	7.11	7.11	6.75	6.75
Runoff Volume (cf):	493541	1972085	147109	453825	287773

Basin Name:	B-E010	B-E020	B-E030	B-E040	B-E050
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E010	N-E020	N-E030	N-E040	N-E050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	29.99	2.40	3.20	3.87	2.67
Comp Time Inc (min):	15.00	2.40	3.20	3.87	2.67
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	225.00	18.00	24.00	29.00	20.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	223.40	5.75	6.47	20.89	14.49
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	72.00	85.00	85.00	85.00	85.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	14.75	12.32	12.37	12.37	12.31
Flow Max (cfs):	157.06	25.07	24.88	73.88	60.55
Runoff Volume (in):	5.40	6.99	6.99	6.99	6.99
Runoff Volume (cf):	4381243	145905	164175	529935	367680

Basin Name:	B-E060	B-E070	B-E080	B-E090	B-E100
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E060	N-E070	N-E080	N-E090	N-E100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.73	2.27	2.13	6.53	7.06
Comp Time Inc (min):	1.73	2.27	2.13	6.53	7.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	13.00	17.00	16.00	49.00	53.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.25	5.64	7.61	14.98	18.64
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	84.00	84.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.28	12.32	12.30	12.52	12.60
Flow Max (cfs):	20.65	24.80	34.18	38.56	45.59
Runoff Volume (in):	6.99	6.87	6.87	6.87	6.74
Runoff Volume (cf):	107818	140607	189742	373328	456084

Basin Name:	B-E110	B-E120	B-E130	B-E140	B-E150
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E110	N-E120	N-E130	N-E140	N-E150
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Comp Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	45.00	25.00	20.00	25.00	23.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	13.04	4.37	3.57	5.37	2.97
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	82.00	83.00	81.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.33	12.31	12.33	12.32
Flow Max (cfs):	34.90	15.85	14.53	19.18	11.35
Runoff Volume (in):	6.75	6.63	6.75	6.50	6.74
Runoff Volume (cf):	319367	105095	87434	126770	72717

Basin Name:	B-E160	B-E170	B-E180	B-E190	B-E200
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E160	N-E170	N-E180	N-E190	N-E200
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Comp Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	29.00	38.00	26.00	30.00	15.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	3.97	9.21	3.20	5.10	6.45
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	83.00	83.00	83.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.37	12.50	12.36	12.40	12.27
Flow Max (cfs):	13.66	27.42	11.62	17.22	29.58
Runoff Volume (in):	6.75	6.75	6.75	6.75	6.87
Runoff Volume (cf):	97204	225523	78354	124906	160819

Basin Name:	B-E210	B-E220	B-E230	B-E231	B-E240
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E210	N-E220	N-E230	N-E230	N-E240
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Comp Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	15.00	30.00	47.00	12.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	2.15	6.73	20.10	4.00	4.48
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	84.00	79.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.24	12.27	12.40	12.53	12.27
Flow Max (cfs):	11.02	30.87	68.82	9.80	22.05
Runoff Volume (in):	6.87	6.87	6.87	6.25	6.87
Runoff Volume (cf):	53606	167800	501157	90805	111701

Basin Name:	B-E250	B-E251	B-E252	B-E260	B-E270
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E250	N-E250	N-E250	N-E260	N-E270
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.67	18.93	19.33	43.99	6.53
Comp Time Inc (min):	2.67	15.00	15.00	15.00	6.53
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	20.00	142.00	145.00	330.00	49.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	5.35	59.00	58.00	743.90	7.94
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	79.00	79.00	77.00	81.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.31	13.75	13.75	16.00	12.63
Flow Max (cfs):	22.07	67.66	65.65	437.31	19.49
Runoff Volume (in):	6.87	6.26	6.25	6.01	6.50
Runoff Volume (cf):	133392	1340601	1316892	16234420	187350

Basin Name:	B-F010	B-F030	B-F040	B-F060	B-F080
Group Name:	MC	MC	MC	MC	MC
Node Name:	N-F010	N-F030	N-F040	N-F060	N-F080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Comp Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	49.00	30.00	13.00	20.00	38.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	43.19	16.46	4.84	24.34	7.55
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	86.00	86.00	72.00	73.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.52	12.40	12.28	12.31	12.50
Flow Max (cfs):	114.40	57.85	23.78	81.74	18.78
Runoff Volume (in):	7.11	7.11	7.11	5.41	5.53
Runoff Volume (cf):	1114499	424933	124922	477583	151453

Basin Name:	B-G020	B-G050	B-G060	B-G070	B-G080
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G020	N-G050	N-G060	N-G070	N-G080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	27.99	23.99	3.07	2.13	1.87
Comp Time Inc (min):	15.00	15.00	3.07	2.13	1.87
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	210.00	180.00	23.00	16.00	14.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	182.80	76.10	6.22	2.37	5.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	77.00	86.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	14.50	14.00	12.32	12.30	12.29
Flow Max (cfs):	151.20	70.38	24.73	10.90	25.39
Runoff Volume (in):	6.01	6.01	7.11	7.11	7.11
Runoff Volume (cf):	3987219	1659729	160529	61184	136549

Basin Name:	B-G090	B-G180	B-G110	B-G120	B-G130
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G090	N-G180	N-G110	N-G120	N-G130
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.53	33.33	1.73	3.20	3.73
Comp Time Inc (min):	2.53	15.00	1.73	3.20	3.73
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	8.80	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.00	250.00	13.00	24.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	7.38	317.90	7.36	7.88	11.79
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	74.00	85.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.33	15.00	12.28	12.37	12.38
Flow Max (cfs):	31.82	216.01	35.76	29.52	41.28
Runoff Volume (in):	7.11	5.65	6.99	6.75	6.74
Runoff Volume (cf):	190489	6516956	186716	192992	288619

Basin Name:	B-G140	B-G150	B-G160	B-G181
Group Name:	BL	BL	BL	BL
Node Name:	N-G140	N-G150	N-G160	N-G180
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.60	16.40	2.40	29.33
Comp Time Inc (min):	3.60	15.00	2.40	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	8.80	8.80	8.80	8.80
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	27.00	123.00	18.00	220.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	4.86	37.00	3.69	202.50
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	81.00	79.00	86.00	72.00
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	12.36	13.50	12.32	14.75
Flow Max (cfs):	16.85	47.07	16.27	144.39
Runoff Volume (in):	6.50	6.25	7.11	5.40
Runoff Volume (cf):	114730	839645	95261	3969800

***** Basin Summary - 100YR *****

Basin Name:	B-A030	B-A040	B-A041	B-A060	B-A100
Group Name:	RR	RR	RR	RR	RR
Node Name:	N-A030	N-A040	N-A040	N-A060	N-A100
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	39.99	36.66	35.99	17.73	17.20
Comp Time Inc (min):	15.00	15.00	15.00	15.00	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	300.00	275.00	270.00	133.00	129.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	536.70	402.60	388.40	62.80	52.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	83.00	85.00	76.00	82.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	15.50	15.25	15.25	13.50	13.50
Flow Max (cfs):	452.80	357.42	360.09	84.89	79.38
Runoff Volume (in):	8.03	7.90	8.15	7.00	7.77
Runoff Volume (cf):	15639906	11546412	11493561	1595454	1465894

Basin Name:	B-A120	B-A140	B-B020	B-B040	B-B060
Group Name:	RR	RR	HH	HH	HH
Node Name:	N-A120	N-A140	N-B020	N-B040	N-B060
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	18.00	34.66	18.40	3.60	25.99
Comp Time Inc (min):	15.00	15.00	15.00	3.60	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	135.00	260.00	138.00	27.00	195.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	99.30	348.50	93.40	9.10	107.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	79.00	85.00	88.00	76.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	13.50	15.00	13.50	12.36	14.25
Flow Max (cfs):	149.15	301.87	141.93	39.90	109.66
Runoff Volume (in):	7.90	7.39	8.15	8.53	7.01
Runoff Volume (cf):	2846067	9350137	2764106	281934	2737200

Basin Name:	B-B100	B-B140	B-B160	B-B170	B-B230
Group Name:	HH	HH	HH	HH	HH
Node Name:	N-B100	N-B140	N-B160	N-B170	N-B230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	11.60	27.19	10.13	4.13	4.27
Comp Time Inc (min):	11.60	15.00	10.13	4.13	4.27
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	87.00	204.00	76.00	31.00	32.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	26.30	90.20	37.90	16.60	25.20
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	78.00	79.00	83.00	87.00	89.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.95	14.50	12.84	12.40	12.44
Flow Max (cfs):	49.72	93.83	84.82	67.06	101.66
Runoff Volume (in):	7.27	7.39	7.90	8.41	8.66
Runoff Volume (cf):	693625	2420411	1087484	506633	791875

Basin Name:	B-C010	B-C050	B-C080	B-C120	B-C130
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C010	N-C050	N-C080	N-C120	N-C130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.93	6.80	15.46	13.33	5.33
Comp Time Inc (min):	6.93	6.80	15.00	13.33	5.33
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	52.00	51.00	116.00	100.00	40.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	27.60	7.60	84.50	60.70	40.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	80.00	81.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.58	13.25	13.11	12.53
Flow Max (cfs):	79.61	21.31	137.26	114.33	135.44
Runoff Volume (in):	7.90	7.52	7.65	8.03	7.91
Runoff Volume (cf):	791438	207383	2345476	1769901	1165167

Basin Name:	B-C140	B-C150	B-C170	B-C190	B-C230
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C140	N-C150	N-C170	N-C190	N-C230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Comp Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	37.00	88.00	61.00	48.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	12.20	36.10	101.20	23.50	48.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	78.00	82.00	82.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.91	12.74	12.59	12.38
Flow Max (cfs):	43.79	67.44	257.38	69.94	197.88
Runoff Volume (in):	8.15	7.26	7.78	7.78	8.03
Runoff Volume (cf):	361053	950891	2857481	663592	1398964

Basin Name:	B-C270	B-D010	B-D020	B-D030	B-D050
Group Name:	SM1	SM2	SM2	SM2	SM2
Node Name:	N-C270	N-D010	N-D020	N-D030	N-D050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	10.80	13.73	9.86	11.20	4.40
Comp Time Inc (min):	10.80	13.73	9.87	11.20	4.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	81.00	103.00	74.00	84.00	33.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	35.70	23.10	30.50	56.50	22.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	76.00	81.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.96	13.28	12.83	12.88	12.39
Flow Max (cfs):	69.59	37.12	67.54	122.99	87.33
Runoff Volume (in):	7.13	6.99	7.64	8.28	8.28
Runoff Volume (cf):	924509	586498	845781	1697328	679512

Basin Name:	B-D080	B-D110	B-D130	B-D131	B-D132
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D080	N-D110	N-D130	N-D130	N-D130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	5.07	5.73	9.46	12.80	12.40
Comp Time Inc (min):	5.07	5.73	9.47	12.80	12.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	38.00	43.00	71.00	96.00	93.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.80	29.80	15.60	24.90	46.30
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	85.00	63.00	80.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.52	12.78	13.23	13.02
Flow Max (cfs):	23.85	97.67	37.51	31.40	86.41
Runoff Volume (in):	8.03	8.03	8.16	5.29	7.52
Runoff Volume (cf):	198240	868776	461930	478493	1264200

Basin Name:	B-D140	B-D160	B-D190	B-D210	B-D220
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D140	N-D160	N-D190	N-D210	N-D220
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	8.26	5.60	3.07	7.20	6.00
Comp Time Inc (min):	8.27	5.60	3.07	7.20	6.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	62.00	42.00	23.00	54.00	45.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	19.80	76.40	5.70	18.53	11.75
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	86.00	86.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.68	12.51	12.32	12.60	12.50
Flow Max (cfs):	51.54	259.67	26.20	52.33	36.66
Runoff Volume (in):	8.03	8.28	8.28	7.91	7.91
Runoff Volume (cf):	577176	2297259	171366	531787	337210

Basin Name:	B-E010	B-E020	B-E030	B-E040	B-E050
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E010	N-E020	N-E030	N-E040	N-E050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	29.99	2.40	3.20	3.87	2.67
Comp Time Inc (min):	15.00	2.40	3.20	3.87	2.67
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	225.00	18.00	24.00	29.00	20.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	223.40	5.75	6.47	20.89	14.49
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	72.00	85.00	85.00	85.00	85.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	14.75	12.32	12.32	12.37	12.31
Flow Max (cfs):	189.22	29.00	28.82	85.63	70.09
Runoff Volume (in):	6.49	8.16	8.16	8.16	8.16
Runoff Volume (cf):	5260075	170293	191617	618518	429138

Basin Name:	B-E060	B-E070	B-E080	B-E090	B-E100
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E060	N-E070	N-E080	N-E090	N-E100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.73	2.27	2.13	6.53	7.06
Comp Time Inc (min):	1.73	2.27	2.13	6.53	7.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	13.00	17.00	16.00	49.00	53.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.25	5.64	7.61	14.98	18.64
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	84.00	84.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.28	12.32	12.30	12.52	12.60
Flow Max (cfs):	23.87	28.74	39.61	44.87	53.15
Runoff Volume (in):	8.16	8.03	8.03	8.03	7.90
Runoff Volume (cf):	125841	164434	221894	436593	534447

Basin Name:	B-E110	B-E120	B-E130	B-E140	B-E150
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E110	N-E120	N-E130	N-E140	N-E150
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Comp Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	45.00	25.00	20.00	25.00	23.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	13.04	4.37	3.57	5.37	2.97
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	82.00	83.00	81.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.33	12.31	12.33	12.32
Flow Max (cfs):	40.69	18.49	16.89	22.42	13.21
Runoff Volume (in):	7.91	7.78	7.91	7.65	7.90
Runoff Volume (cf):	374231	123400	102454	149156	85210

Basin Name:	B-E160	B-E170	B-E180	B-E190	B-E200
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E160	N-E170	N-E180	N-E190	N-E200
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Comp Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	29.00	38.00	26.00	30.00	15.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	3.97	9.21	3.20	5.10	6.45
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	83.00	83.00	83.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.37	12.50	12.36	12.40	12.27
Flow Max (cfs):	15.90	31.92	13.52	20.04	34.30
Runoff Volume (in):	7.90	7.90	7.90	7.91	8.03
Runoff Volume (cf):	113903	264267	91815	146364	188070

Basin Name:	B-E210	B-E220	B-E230	B-E231	B-E240
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E210	N-E220	N-E230	N-E230	N-E240
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Comp Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	15.00	30.00	47.00	12.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	2.15	6.73	20.10	4.00	4.48
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	84.00	79.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.24	12.27	12.40	12.53	12.27
Flow Max (cfs):	12.76	35.79	79.92	11.54	25.53
Runoff Volume (in):	8.03	8.03	8.03	7.39	8.03
Runoff Volume (cf):	62690	196234	586079	107295	130629

Basin Name:	B-E250	B-E251	B-E252	B-E260	B-E270
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E250	N-E250	N-E250	N-E260	N-E270
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.67	18.93	19.33	43.99	6.53
Comp Time Inc (min):	2.67	15.00	15.00	15.00	6.53
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	20.00	142.00	145.00	330.00	49.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	5.35	59.00	58.00	743.90	7.94
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	79.00	79.00	77.00	81.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.31	13.50	13.75	16.00	12.52
Flow Max (cfs):	25.61	79.89	77.49	519.73	22.83
Runoff Volume (in):	8.03	7.40	7.39	7.13	7.65
Runoff Volume (cf):	155996	1584005	1555991	19265788	220437

Basin Name:	B-F010	B-F030	B-F040	B-F060	B-F080
Group Name:	MC	MC	MC	MC	MC
Node Name:	N-F010	N-F030	N-F040	N-F060	N-F080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Comp Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	49.00	30.00	13.00	20.00	38.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	43.19	16.46	4.84	24.34	7.55
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	86.00	86.00	72.00	73.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.52	12.40	12.28	12.31	12.50
Flow Max (cfs):	132.53	66.89	27.44	97.77	22.44
Runoff Volume (in):	8.28	8.28	8.28	6.49	6.62
Runoff Volume (cf):	1298276	494998	145520	573381	181396

Basin Name:	B-G020	B-G050	B-G060	B-G070	B-G080
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G020	N-G050	N-G060	N-G070	N-G080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	27.99	23.99	3.07	2.13	1.87
Comp Time Inc (min):	15.00	15.00	3.07	2.13	1.87
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	210.00	180.00	23.00	16.00	14.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	182.80	76.10	6.22	2.37	5.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	77.00	86.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	14.50	14.00	12.32	12.30	12.29
Flow Max (cfs):	179.64	83.67	28.59	12.58	29.30
Runoff Volume (in):	7.13	7.13	8.28	8.28	8.28
Runoff Volume (cf):	4731733	1969641	187000	71273	159065

Basin Name:	B-G090	B-G180	B-G110	B-G120	B-G130
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G090	N-G180	N-G110	N-G120	N-G130
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.53	33.33	1.73	3.20	3.73
Comp Time Inc (min):	2.53	15.00	1.73	3.20	3.73
Rainfall File:	SCSI11	SCSI11	SCSI11	SCSI11	SCSI11
Rainfall Amount (in):	10.00	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.00	250.00	13.00	24.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	7.38	317.90	7.36	7.88	11.79
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	74.00	85.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.33	15.00	12.28	12.37	12.38
Flow Max (cfs):	36.74	258.84	41.34	34.31	48.04
Runoff Volume (in):	8.28	6.75	8.16	7.91	7.90
Runoff Volume (cf):	221898	7786894	217927	226146	338205

Basin Name:	B-G140	B-G150	B-G160	B-G181
Group Name:	BL	BL	BL	BL
Node Name:	N-G140	N-G150	N-G160	N-G180
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.60	16.40	2.40	29.33
Comp Time Inc (min):	3.60	15.00	2.40	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	10.00	10.00	10.00	10.00
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	27.00	123.00	18.00	220.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	4.86	37.00	3.69	202.50
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	81.00	79.00	86.00	72.00
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	12.36	13.50	12.32	14.75
Flow Max (cfs):	19.70	55.53	18.79	173.89
Runoff Volume (in):	7.65	7.39	8.28	6.48
Runoff Volume (cf):	134990	992093	110969	4766099

***** Basin Summary - 500YR *****

Basin Name:	B-A030	B-A040	B-A041	B-A060	B-A100
Group Name:	RR	RR	RR	RR	RR
Node Name:	N-A030	N-A040	N-A040	N-A060	N-A100
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	39.99	36.66	35.99	17.73	17.20
Comp Time Inc (min):	15.00	15.00	15.00	15.00	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	300.00	275.00	270.00	133.00	129.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	536.70	402.60	388.40	62.80	52.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	83.00	85.00	76.00	82.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	15.50	15.25	15.25	13.50	13.50
Flow Max (cfs):	534.52	422.73	423.89	102.02	93.90
Runoff Volume (in):	9.49	9.36	9.62	8.41	9.22
Runoff Volume (cf):	18491120	13677918	13562898	1917626	1739933

Basin Name:	B-A120	B-A140	B-B020	B-B040	B-B060
Group Name:	RR	RR	HH	HH	HH
Node Name:	N-A120	N-A140	N-B020	N-B040	N-B060
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	18.00	34.66	18.40	3.60	25.99
Comp Time Inc (min):	15.00	15.00	15.00	3.60	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	135.00	260.00	138.00	27.00	195.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	99.30	348.50	93.40	9.10	107.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	79.00	85.00	88.00	76.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	13.50	15.00	13.50	12.36	14.25
Flow Max (cfs):	176.12	360.55	166.87	46.44	131.91
Runoff Volume (in):	9.35	8.83	9.62	10.02	8.42
Runoff Volume (cf):	3371461	11166145	3261765	330845	3289928

Basin Name:	B-B100	B-B140	B-B160	B-B170	B-B230
Group Name:	HH	HH	HH	HH	HH
Node Name:	N-B100	N-B140	N-B160	N-B170	N-B230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	11.60	27.19	10.13	4.13	4.27
Comp Time Inc (min):	11.60	15.00	10.13	4.13	4.27
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	87.00	204.00	76.00	31.00	32.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	26.30	90.20	37.90	16.60	25.20
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	78.00	79.00	83.00	87.00	89.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.95	14.50	12.84	12.40	12.44
Flow Max (cfs):	59.36	111.91	99.98	78.21	118.12
Runoff Volume (in):	8.69	8.83	9.36	9.88	10.14
Runoff Volume (cf):	830097	2890511	1288243	595618	927578

Basin Name:	B-C010	B-C050	B-C080	B-C120	B-C130
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C010	N-C050	N-C080	N-C120	N-C130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.93	6.80	15.46	13.33	5.33
Comp Time Inc (min):	6.93	6.80	15.00	13.33	5.33
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	52.00	51.00	116.00	100.00	40.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	27.60	7.60	84.50	60.70	40.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	80.00	81.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.60	12.58	13.25	13.11	12.44
Flow Max (cfs):	93.73	25.26	162.80	134.55	159.32
Runoff Volume (in):	9.36	8.96	9.09	9.50	9.37
Runoff Volume (cf):	937557	247154	2789535	2092560	1380262

Basin Name:	B-C140	B-C150	B-C170	B-C190	B-C230
Group Name:	SM1	SM1	SM1	SM1	SM1
Node Name:	N-C140	N-C150	N-C170	N-C190	N-C230
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Comp Time Inc (min):	4.93	11.73	8.13	6.40	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	37.00	88.00	61.00	48.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	12.20	36.10	101.20	23.50	48.00
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	78.00	82.00	82.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.91	12.74	12.59	12.38
Flow Max (cfs):	51.26	80.58	303.69	82.48	232.04
Runoff Volume (in):	9.62	8.68	9.23	9.23	9.49
Runoff Volume (cf):	426064	1138021	3391675	787646	1654017

Basin Name:	B-C270	B-D010	B-D020	B-D030	B-D050
Group Name:	SM1	SM2	SM2	SM2	SM2
Node Name:	N-C270	N-D010	N-D020	N-D030	N-D050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	10.80	13.73	9.86	11.20	4.40
Comp Time Inc (min):	10.80	13.73	9.87	11.20	4.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	81.00	103.00	74.00	84.00	33.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	35.70	23.10	30.50	56.50	22.60
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	76.00	81.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.96	13.05	12.83	12.88	12.39
Flow Max (cfs):	83.22	44.56	79.97	144.10	102.09
Runoff Volume (in):	8.56	8.41	9.09	9.75	9.76
Runoff Volume (cf):	1108794	704976	1005950	1999187	800346

Basin Name:	B-D080	B-D110	B-D130	B-D131	B-D132
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D080	N-D110	N-D130	N-D130	N-D130
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	5.07	5.73	9.46	12.80	12.40
Comp Time Inc (min):	5.07	5.73	9.47	12.80	12.40
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	38.00	43.00	71.00	96.00	93.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	6.80	29.80	15.60	24.90	46.30
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	85.00	63.00	80.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.52	12.78	13.23	13.02
Flow Max (cfs):	27.98	114.67	44.01	39.23	102.65
Runoff Volume (in):	9.50	9.50	9.63	6.58	8.96
Runoff Volume (cf):	234380	1027160	545100	594354	1506623

Basin Name:	B-D140	B-D160	B-D190	B-D210	B-D220
Group Name:	SM2	SM2	SM2	SM2	SM2
Node Name:	N-D140	N-D160	N-D190	N-D210	N-D220
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	8.26	5.60	3.07	7.20	6.00
Comp Time Inc (min):	8.27	5.60	3.07	7.20	6.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	62.00	42.00	23.00	54.00	45.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	19.80	76.40	5.70	18.53	11.75
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	86.00	86.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.68	12.51	12.32	12.60	12.50
Flow Max (cfs):	60.59	303.59	30.60	61.63	43.16
Runoff Volume (in):	9.49	9.76	9.75	9.37	9.37
Runoff Volume (cf):	682401	2705764	201839	629957	399460

Basin Name:	B-E010	B-E020	B-E030	B-E040	B-E050
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E010	N-E020	N-E030	N-E040	N-E050
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	29.99	2.40	3.20	3.87	2.67
Comp Time Inc (min):	15.00	2.40	3.20	3.87	2.67
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	225.00	18.00	24.00	29.00	20.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	223.40	5.75	6.47	20.89	14.49
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	72.00	85.00	85.00	85.00	85.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	14.75	12.32	12.32	12.37	12.31
Flow Max (cfs):	230.04	33.89	33.73	100.24	81.97
Runoff Volume (in):	7.87	9.63	9.63	9.63	9.63
Runoff Volume (cf):	6380380	200953	226116	729881	506402

Basin Name:	B-E060	B-E070	B-E080	B-E090	B-E100
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E060	N-E070	N-E080	N-E090	N-E100
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.73	2.27	2.13	6.53	7.06
Comp Time Inc (min):	1.73	2.27	2.13	6.53	7.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	13.00	17.00	16.00	49.00	53.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.25	5.64	7.61	14.98	18.64
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	85.00	84.00	84.00	84.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.28	12.28	12.30	12.52	12.60
Flow Max (cfs):	27.87	33.64	46.37	52.73	62.58
Runoff Volume (in):	9.63	9.50	9.50	9.49	9.36
Runoff Volume (cf):	148498	194411	262346	516191	633120

Basin Name:	B-E110	B-E120	B-E130	B-E140	B-E150
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E110	N-E120	N-E130	N-E140	N-E150
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Comp Time Inc (min):	6.00	3.33	2.67	3.33	3.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	45.00	25.00	20.00	25.00	23.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	13.04	4.37	3.57	5.37	2.97
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	82.00	83.00	81.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.50	12.33	12.31	12.33	12.32
Flow Max (cfs):	47.90	21.77	19.84	26.47	15.52
Runoff Volume (in):	9.37	9.23	9.37	9.10	9.36
Runoff Volume (cf):	443316	146468	121368	177395	100941

Basin Name:	B-E160	B-E170	B-E180	B-E190	B-E200
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E160	N-E170	N-E180	N-E190	N-E200
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Comp Time Inc (min):	3.87	5.07	3.47	4.00	2.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	29.00	38.00	26.00	30.00	15.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	3.97	9.21	3.20	5.10	6.45
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	83.00	83.00	83.00	83.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.37	12.50	12.36	12.40	12.27
Flow Max (cfs):	18.69	37.53	15.89	23.55	40.16
Runoff Volume (in):	9.36	9.36	9.36	9.37	9.50
Runoff Volume (cf):	134931	313053	108765	173383	222356

Basin Name:	B-E210	B-E220	B-E230	B-E231	B-E240
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E210	N-E220	N-E230	N-E230	N-E240
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Comp Time Inc (min):	1.33	2.00	4.00	6.27	1.60
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	10.00	15.00	30.00	47.00	12.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	2.15	6.73	20.10	4.00	4.48
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	84.00	84.00	79.00	84.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.24	12.27	12.40	12.53	12.27
Flow Max (cfs):	14.92	41.90	93.73	13.72	29.87
Runoff Volume (in):	9.50	9.50	9.50	8.82	9.50
Runoff Volume (cf):	74119	232009	692924	128137	154443

Basin Name:	B-E250	B-E251	B-E252	B-E260	B-E270
Group Name:	VG	VG	VG	VG	VG
Node Name:	N-E250	N-E250	N-E250	N-E260	N-E270
Hydrograph Type:	UH	UH	UH	UH	UH

Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.67	18.93	19.33	43.99	6.53
Comp Time Inc (min):	2.67	15.00	15.00	15.00	6.53
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	20.00	142.00	145.00	330.00	49.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	5.35	59.00	58.00	743.90	7.94
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	84.00	79.00	79.00	77.00	81.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00

Time Max (hrs):	12.31	13.50	13.75	16.00	12.52
Flow Max (cfs):	30.00	95.34	92.34	623.70	27.02
Runoff Volume (in):	9.50	8.83	8.83	8.56	9.10
Runoff Volume (cf):	184435	1891655	1858200	23105692	262174

Basin Name:	B-F010	B-F030	B-F040	B-F060	B-F080
Group Name:	MC	MC	MC	MC	MC
Node Name:	N-F010	N-F030	N-F040	N-F060	N-F080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Comp Time Inc (min):	6.53	4.00	1.73	2.67	5.07
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	49.00	30.00	13.00	20.00	38.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	43.19	16.46	4.84	24.34	7.55
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	86.00	86.00	72.00	73.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.52	12.40	12.28	12.31	12.50
Flow Max (cfs):	155.09	78.15	31.98	117.94	27.05
Runoff Volume (in):	9.75	9.76	9.76	7.87	8.01
Runoff Volume (cf):	1529149	583019	171398	695502	219514

Basin Name:	B-G020	B-G050	B-G060	B-G070	B-G080
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G020	N-G050	N-G060	N-G070	N-G080
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	27.99	23.99	3.07	2.13	1.87
Comp Time Inc (min):	15.00	15.00	3.07	2.13	1.87
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	210.00	180.00	23.00	16.00	14.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	182.80	76.10	6.22	2.37	5.29
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	77.00	77.00	86.00	86.00	86.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	14.50	14.00	12.32	12.30	12.29
Flow Max (cfs):	215.45	100.40	33.39	14.67	34.16
Runoff Volume (in):	8.55	8.55	9.75	9.76	9.76
Runoff Volume (cf):	5674819	2362214	220253	83946	187350

Basin Name:	B-G090	B-G180	B-G110	B-G120	B-G130
Group Name:	BL	BL	BL	BL	BL
Node Name:	N-G090	N-G180	N-G110	N-G120	N-G130
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00	323.00
Spec Time Inc (min):	2.53	33.33	1.73	3.20	3.73
Comp Time Inc (min):	2.53	15.00	1.73	3.20	3.73
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	19.00	250.00	13.00	24.00	28.00
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	7.38	317.90	7.36	7.88	11.79
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	86.00	74.00	85.00	83.00	83.00
DCIA (%):	0.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.29	15.00	12.28	12.32	12.38
Flow Max (cfs):	42.87	313.04	48.27	40.31	56.45
Runoff Volume (in):	9.76	8.15	9.63	9.37	9.36
Runoff Volume (cf):	261357	9401416	257164	267893	400642

Basin Name:	B-G140	B-G150	B-G160	B-G181
Group Name:	BL	BL	BL	BL
Node Name:	N-G140	N-G150	N-G160	N-G180
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH323	UH323	UH323	UH323
Peaking Factor:	323.00	323.00	323.00	323.00
Spec Time Inc (min):	3.60	16.40	2.40	29.33
Comp Time Inc (min):	3.60	15.00	2.40	15.00
Rainfall File:	SCSIII	SCSIII	SCSIII	SCSIII
Rainfall Amount (in):	11.50	11.50	11.50	11.50
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	27.00	123.00	18.00	220.00
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	4.86	37.00	3.69	202.50
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	81.00	79.00	86.00	72.00
DCIA (%):	0.00	0.00	0.00	0.00
Time Max (hrs):	12.36	13.50	12.32	14.75
Flow Max (cfs):	23.26	66.13	21.92	211.31
Runoff Volume (in):	9.10	8.82	9.76	7.86
Runoff Volume (cf):	160547	1184781	130701	5781197

8.2 HYDRAULIC RESULTS

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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Church Creek Watershed
Existing Conditions
09/26/01

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max Outflow	Max	Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow			(cfs)
*** Node Name: N-A010 Group: RR											
2YR	10.00	4.80	0.00	0.0003	1361754.38	25.18	584.88	0.00	0.00		
10YR	10.00	4.80	0.00	0.0003	1362952.33	25.73	880.25	0.00	0.00		
25YR	10.00	4.80	0.00	0.0003	1363797.09	25.26	1063.71	0.00	0.00		
50YR	10.00	4.80	0.00	0.0003	1364920.38	25.73	1216.09	0.00	0.00		
100YR	10.00	4.80	0.00	0.0003	1368091.53	25.44	1428.36	0.00	0.00		
500YR	10.00	4.80	0.00	0.0003	1371721.03	25.14	1707.61	0.00	0.00		
*** Node Name: N-A015 Group: RR											
2YR	22.38	4.76	0.00	0.0006	1742277.92	26.35	545.89	25.18	584.88		
10YR	23.94	5.20	0.00	0.0006	1879041.56	26.03	872.00	25.73	880.25		
25YR	24.41	5.50	0.00	0.0006	1892572.83	25.31	1051.42	25.26	1063.71		
50YR	25.73	5.78	0.00	0.0006	2115191.03	25.22	1210.61	25.73	1216.09		
100YR	25.44	6.01	0.00	0.0006	2145270.13	26.08	1388.03	25.44	1428.36		
500YR	25.14	6.28	0.00	0.0008	1928097.44	25.70	1601.09	25.14	1707.61		
*** Node Name: N-A020 Group: RR											
2YR	22.54	4.82	0.00	0.0007	354093.66	26.40	541.36	26.35	545.89		
10YR	24.36	5.33	0.00	0.0008	444702.70	26.05	870.90	26.03	872.00		
25YR	24.54	5.63	0.00	0.0008	447958.94	25.30	1049.07	25.31	1051.42		
50YR	25.74	5.90	0.00	0.0008	450919.98	25.24	1211.48	25.22	1210.61		
100YR	25.45	6.11	0.00	0.0008	453308.92	26.11	1386.50	26.08	1388.03		
500YR	25.14	6.38	0.00	0.0010	456607.41	25.84	1595.95	25.70	1601.09		
*** Node Name: N-A030 Group: RR											
2YR	23.04	5.01	0.00	0.0008	2069940.22	25.76	525.17	26.40	541.36		
10YR	25.10	5.79	0.00	0.0008	2681581.65	25.82	861.43	26.05	870.90		
25YR	24.73	6.02	0.00	0.0008	2728647.73	25.08	1045.68	25.30	1049.07		
50YR	25.78	6.18	0.00	0.0008	2926739.14	23.71	1219.86	25.24	1211.48		
100YR	25.59	6.52	0.00	0.0008	3512471.84	23.04	1422.09	26.11	1386.50		
500YR	25.25	6.94	0.00	0.0008	3798121.02	22.92	1616.27	25.84	1595.95		
*** Node Name: N-A040 Group: RR											
2YR	25.69	5.39	0.00	0.0003	4515070.17	14.75	804.73	26.86	481.90		
10YR	26.02	6.27	0.00	0.0006	5201051.46	19.68	877.66	26.46	786.40		
25YR	25.61	6.57	0.00	0.0004	5363641.75	19.33	1020.73	25.83	948.46		
50YR	25.77	6.81	0.00	0.0003	5572212.08	18.66	1153.84	25.71	1101.00		
100YR	26.16	7.15	0.00	0.0006	6261849.83	21.76	1341.94	23.71	1253.94		
500YR	25.92	7.51	0.00	0.0005	6629058.72	19.80	1527.27	26.58	1426.60		
*** Node Name: N-A050 Group: RR											
2YR	25.69	5.39	8.00	-0.0012	386761.21	14.41	33.37	14.75	387.24		
10YR	26.02	6.27	8.00	-0.0014	446735.78	14.20	59.19	13.49	433.89		
25YR	25.61	6.57	8.00	-0.0014	459770.23	14.42	71.96	13.07	432.74		
50YR	25.77	6.81	8.00	-0.0014	473483.80	14.34	84.48	12.65	430.53		
100YR	26.16	7.15	8.00	-0.0014	493258.69	14.28	98.87	12.08	427.78		
500YR	25.92	7.51	8.00	-0.0006	518396.41	14.25	115.96	67.54	164.83		
*** Node Name: N-A060 Group: RR											
2YR	25.69	5.39	8.00	-0.0005	186305.21	13.75	34.91	14.41	33.37		
10YR	26.02	6.27	8.00	0.0002	232389.37	13.75	64.84	14.20	59.19		
25YR	25.58	6.57	8.00	-0.0005	266879.02	13.75	79.09	14.42	71.96		
50YR	25.72	6.82	8.00	-0.0004	313279.56	13.75	92.80	14.34	84.48		
100YR	26.15	7.15	8.00	-0.0003	328687.93	13.50	108.81	14.28	98.87		
500YR	25.92	7.51	8.00	-0.0003	346254.65	13.50	127.44	14.25	115.96		
*** Node Name: N-A090 Group: RR											
2YR	17.59	6.28	9.00	0.0002	43957.08	15.53	16.44	20.04	16.22		
10YR	25.98	6.27	9.00	0.0001	86933.59	16.04	24.61	17.57	28.56		
25YR	25.41	6.57	9.00	0.0001	135841.72	16.23	27.96	16.97	30.89		
50YR	25.61	6.82	9.00	0.0001	241360.61	16.38	31.16	16.48	32.51		
100YR	26.11	7.15	9.00	0.0001	261729.03	16.50	34.96	16.02	34.15		
500YR	25.91	7.52	9.00	0.0001	284357.41	16.66	39.54	15.56	36.36		
*** Node Name: N-A100 Group: RR											
2YR	15.53	8.77	14.80	0.0004	213284.62	13.50	27.70	15.53	16.44		
10YR	16.04	9.24	14.80	0.0003	380523.76	13.50	48.48	16.04	24.61		
25YR	16.23	9.41	14.80	0.0002	451775.71	13.50	58.10	16.23	27.96		
50YR	16.38	9.56	14.80	0.0002	504063.08	13.50	67.76	16.38	31.16		
100YR	16.50	9.74	14.80	0.0002	543755.26	13.50	79.38	16.50	34.96		
500YR	16.66	9.95	14.80	0.0002	591372.83	13.50	93.90	16.66	39.54		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max	Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max	Outflow
Name	Conditions		(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow		(cfs)
*** Node Name: N-A110 Group: RR											
2YR	23.46	5.95	8.00	0.0003	1938681.53	20.69	435.30	21.78	424.13		
10YR	25.58	6.79	8.00	0.0003	2323431.44	22.04	708.43	24.41	680.14		
25YR	25.64	7.12	8.00	0.0003	2533972.07	22.22	822.95	25.66	807.63		
50YR	25.63	7.41	8.00	0.0003	2644366.50	24.16	955.30	25.52	942.22		
100YR	25.97	7.75	8.00	0.0004	3171589.69	22.68	1109.93	24.37	1082.16		
500YR	25.82	8.06	8.00	0.0004	3431102.20	23.67	1232.58	24.57	1209.83		
*** Node Name: N-A120 Group: RR											
2YR	22.48	6.12	8.00	0.0018	523894.30	19.36	410.72	20.58	404.41		
10YR	24.86	7.07	8.00	0.0018	856741.19	21.31	666.98	21.99	655.21		
25YR	25.10	7.46	8.00	0.0018	1073820.99	21.21	779.03	22.17	760.84		
50YR	25.07	7.85	8.00	0.0018	1118483.99	23.34	894.86	24.10	882.52		
100YR	25.29	8.35	8.00	0.0018	1320199.57	20.85	1063.40	22.68	1026.49		
500YR	25.04	9.15	8.00	0.0018	1526868.80	19.87	1213.15	19.68	1116.93		
*** Node Name: N-A130 Group: RR											
2YR	22.83	6.28	8.00	-0.0017	12131.72	22.01	31.38	22.10	31.35		
10YR	25.16	7.17	8.00	-0.0017	17659.42	23.32	53.69	23.56	53.57		
25YR	25.46	7.51	8.00	-0.0017	19013.15	24.78	62.76	25.02	62.71		
50YR	25.47	7.81	8.00	-0.0017	20244.72	24.99	73.30	25.02	73.24		
100YR	25.63	8.15	8.00	-0.0017	21679.24	25.06	85.20	25.17	85.15		
500YR	25.36	8.66	8.00	-0.0017	23560.11	24.86	120.46	24.94	120.40		
*** Node Name: N-A140 Group: RR											
2YR	22.79	6.31	8.00	-0.0009	1076068.99	15.50	150.81	23.26	113.59		
10YR	25.10	7.22	8.00	-0.0009	1454703.25	15.25	241.65	26.23	174.97		
25YR	25.42	7.58	8.00	-0.0009	1749671.25	15.25	282.76	26.83	203.22		
50YR	25.42	7.93	8.00	-0.0009	1874269.94	15.25	323.55	27.83	234.36		
100YR	25.51	8.39	8.00	-0.0009	2032282.74	15.00	369.33	30.98	274.51		
500YR	25.16	9.16	8.00	-0.0009	2301992.05	15.00	421.34	31.67	317.68		
*** Node Name: N-B010 Group: HH											
2YR	21.35	6.39	8.10	0.0007	443083.86	18.25	329.30	19.49	321.92		
10YR	23.99	7.32	8.10	0.0008	663562.93	21.03	546.02	21.61	538.01		
25YR	24.48	7.69	8.10	0.0007	702823.40	21.00	649.00	21.56	638.78		
50YR	24.55	8.07	8.10	0.0007	724612.64	22.99	759.92	23.23	750.70		
100YR	24.63	8.55	8.10	-0.0006	824051.05	20.30	992.95	20.49	951.47		
500YR	24.43	9.29	8.10	-0.0007	1105082.25	20.82	1238.27	20.89	1182.20		
*** Node Name: N-B020 Group: HH											
2YR	19.42	7.17	8.55	0.0008	82273.80	18.41	384.87	18.25	329.30		
10YR	21.38	8.48	8.55	0.0008	207366.36	19.71	445.92	21.03	546.02		
25YR	21.71	8.97	8.55	0.0008	264064.70	16.87	578.01	21.00	649.00		
50YR	21.87	9.48	8.55	0.0008	308107.07	21.55	655.65	22.99	759.92		
100YR	21.64	9.88	8.55	0.0008	318128.30	20.34	1220.57	20.30	992.95		
500YR	21.73	10.35	8.55	0.0008	338026.22	20.91	1499.27	20.82	1238.27		
*** Node Name: N-B030 Group: HH											
2YR	19.43	7.17	8.55	0.0006	57897.78	12.97	7.81	30.34	2.45		
10YR	21.42	8.48	8.55	0.0007	114403.93	13.09	10.73	14.62	5.67		
25YR	21.75	8.97	8.55	0.0008	114998.40	13.15	11.70	29.08	7.51		
50YR	21.91	9.48	8.55	0.0008	114998.40	13.20	12.61	32.18	8.70		
100YR	21.64	9.88	8.55	0.0007	114998.40	13.26	13.61	29.33	9.15		
500YR	21.78	10.35	8.55	0.0006	114998.40	13.32	14.76	34.38	12.25		
*** Node Name: N-B040 Group: HH											
2YR	12.97	8.51	11.00	0.0002	71618.34	12.42	15.89	12.97	7.81		
10YR	13.09	8.83	11.00	0.0002	75686.98	12.42	25.49	13.09	10.73		
25YR	13.15	8.98	11.00	0.0003	77736.58	12.33	29.85	13.15	11.70		
50YR	22.13	9.48	11.00	0.0003	86416.96	12.33	34.20	13.20	12.61		
100YR	22.03	9.89	11.00	0.0004	90442.68	12.33	39.41	13.26	13.61		
500YR	21.84	10.35	11.00	0.0004	94554.71	12.33	45.88	13.32	14.76		
*** Node Name: N-B050 Group: HH											
2YR	19.42	7.17	8.55	-0.0034	8826.75	18.18	16.86	19.30	71.79		
10YR	21.38	8.48	8.55	-0.0034	11923.68	17.10	38.30	0.00	13.00		
25YR	21.71	8.97	8.55	-0.0034	13553.74	16.24	55.08	16.24	53.99		
50YR	21.87	9.48	8.55	-0.0034	13568.29	15.74	72.50	15.76	71.13		
100YR	21.64	9.89	8.55	-0.0050	13580.04	15.33	93.59	20.22	273.33		
500YR	21.60	10.36	8.55	-0.0050	13593.42	15.01	119.71	22.65	341.78		
*** Node Name: N-B060 Group: HH											
2YR	18.75	8.02	8.55	0.0007	108140.73	14.50	27.96	18.18	16.86		
10YR	17.34	9.25	8.55	0.0011	156978.38	16.90	50.25	17.10	38.30		
25YR	16.38	9.38	8.55	0.0011	157017.53	16.03	68.49	16.24	55.08		
50YR	21.87	9.50	8.55	0.0011	157053.72	15.55	87.35	15.74	72.50		
100YR	21.57	9.90	8.55	0.0011	157175.20	15.17	109.92	15.33	93.59		
500YR	21.69	10.36	8.55	0.0009	157655.69	14.85	137.71	15.01	119.71		
*** Node Name: N-B070 Group: HH											
2YR	18.75	8.02	8.55	0.0007	44415.07	0.00	0.00	27.47	13.04		
10YR	17.34	9.25	8.55	0.0011	165804.19	0.00	0.00	16.91	9.18		
25YR	16.38	9.38	8.55	0.0011	165901.45	0.00	0.00	16.06	9.64		
50YR	21.87	9.50	8.55	0.0011	165991.35	0.00	0.00	15.56	10.68		
100YR	21.57	9.90	8.55	0.0011	166293.18	0.00	0.00	23.15	29.43		
500YR	21.69	10.36	8.55	0.0009	167661.42	0.00	0.00	25.34	46.52		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)		
***	Node Name: N-B080	Group: HH									
2YR	19.40	7.30	8.55	0.0006	174448.95	18.75	275.82	19.22	296.95		
10YR	21.39	8.62	8.55	0.0007	402512.82	21.12	575.18	21.49	509.14		
25YR	21.69	9.07	8.55	0.0008	536477.12	21.11	712.59	21.40	608.13		
50YR	21.85	9.55	8.55	0.0008	597737.87	21.22	872.99	21.49	717.96		
100YR	21.47	9.95	8.55	0.0007	618312.02	20.40	1131.98	20.38	922.87		
500YR	21.47	10.42	8.55	0.0006	660001.72	20.74	946.24	20.90	1136.34		
***	Node Name: N-B090	Group: HH									
2YR	19.40	7.30	10.00	0.0006	14464.16	14.44	8.52	2.61	0.02		
10YR	21.40	8.62	10.00	0.0007	22138.56	13.32	22.28	22.67	68.75		
25YR	21.69	9.07	10.00	0.0008	22167.10	13.14	25.95	22.84	104.89		
50YR	21.86	9.55	10.00	0.0008	22197.19	13.01	28.27	22.66	154.13		
100YR	21.47	9.96	10.00	0.0009	22222.51	13.43	35.11	22.10	212.74		
500YR	21.47	10.41	10.00	0.0024	22251.34	13.03	39.07	12.46	66.22		
***	Node Name: N-B100	Group: HH									
2YR	19.39	7.31	10.00	0.0005	25523.01	14.32	9.12	14.44	8.52		
10YR	21.53	8.62	10.00	0.0008	259222.53	13.29	25.02	13.32	22.28		
25YR	21.83	9.07	10.00	0.0009	259776.35	13.10	30.95	13.14	25.95		
50YR	22.00	9.55	10.00	0.0009	260857.96	13.00	35.95	13.01	28.27		
100YR	21.66	9.96	10.00	0.0008	261895.43	13.17	41.98	13.43	35.11		
500YR	21.65	10.42	10.00	0.0006	263084.22	13.03	52.91	13.03	39.07		
***	Node Name: N-B110	Group: HH									
2YR	19.39	7.31	10.00	0.0005	19570.37	0.00	0.00	31.67	1.05		
10YR	21.51	8.62	10.00	0.0008	97782.81	0.00	0.00	29.61	3.36		
25YR	21.80	9.07	10.00	0.0009	99327.27	0.00	0.00	24.90	5.24		
50YR	21.99	9.55	10.00	0.0009	102448.76	0.00	0.00	24.49	8.63		
100YR	21.65	9.96	10.00	0.0008	105457.28	0.00	0.00	21.65	10.72		
500YR	21.65	10.42	10.00	0.0006	108904.96	0.00	0.00	25.12	16.39		
***	Node Name: N-B120	Group: HH									
2YR	19.35	7.42	10.00	0.0006	297508.53	17.91	344.71	18.78	295.29		
10YR	21.32	8.72	10.00	0.0007	534171.98	15.02	399.28	20.68	509.43		
25YR	21.61	9.15	10.00	0.0008	703407.49	19.47	466.34	20.66	612.26		
50YR	21.79	9.61	10.00	0.0008	764793.80	20.26	596.78	20.45	728.78		
100YR	21.41	10.01	10.00	0.0007	810443.78	20.40	1191.26	20.40	924.06		
500YR	21.26	10.47	10.00	0.0006	860380.47	20.09	1450.03	20.58	1128.85		
***	Node Name: N-B130	Group: HH									
2YR	19.35	7.42	10.00	0.0006	17576.33	22.37	17.65	19.86	57.85		
10YR	21.33	8.72	10.00	0.0007	17645.44	25.98	31.62	35.71	26.50		
25YR	21.61	9.15	10.00	0.0008	17668.39	27.79	39.86	37.97	26.45		
50YR	21.80	9.61	10.00	0.0016	17692.76	24.18	46.78	37.80	29.22		
100YR	21.42	10.02	10.00	-0.0050	17714.32	23.84	54.13	21.84	293.75		
500YR	21.25	10.48	10.00	0.0050	17738.73	25.47	62.83	21.85	367.80		
***	Node Name: N-B140	Group: HH									
2YR	19.62	7.45	10.00	0.0013	409843.60	14.78	23.01	22.37	17.65		
10YR	21.35	8.73	10.00	0.0014	475121.61	14.17	30.82	25.98	31.62		
25YR	21.64	9.16	10.00	0.0014	475897.09	15.02	37.82	27.79	39.86		
50YR	21.83	9.62	10.00	0.0012	478772.18	14.52	41.66	24.18	46.78		
100YR	21.42	10.02	10.00	0.0010	490391.74	20.37	60.22	23.84	54.13		
500YR	21.26	10.48	10.00	0.0008	524465.23	20.65	71.60	25.47	62.83		
***	Node Name: N-B150	Group: HH									
2YR	19.59	7.45	10.00	0.0013	157472.21	0.00	0.00	28.24	7.15		
10YR	21.35	8.73	10.00	0.0015	352848.91	0.00	0.00	24.77	12.24		
25YR	21.64	9.16	10.00	0.0014	355020.31	0.00	0.00	27.56	12.93		
50YR	21.83	9.62	10.00	0.0012	363481.37	0.00	0.00	29.16	14.22		
100YR	21.42	10.02	10.00	0.0010	398197.77	0.00	0.00	24.50	35.62		
500YR	21.26	10.48	10.00	0.0008	500259.37	0.00	0.00	25.47	45.90		
***	Node Name: N-B160	Group: HH									
2YR	18.86	7.74	10.00	0.0006	342282.80	14.03	310.99	17.24	294.73		
10YR	21.08	8.86	10.00	0.0008	590326.94	18.64	509.77	19.50	500.90		
25YR	21.37	9.27	10.00	0.0008	725943.35	19.33	616.97	19.43	604.74		
50YR	21.60	9.70	10.00	0.0008	799563.39	19.31	755.46	19.76	734.56		
100YR	21.06	10.11	10.00	0.0008	862852.77	20.35	904.17	20.39	899.92		
500YR	20.89	10.55	10.00	0.0007	878225.86	19.14	1126.83	19.61	1103.15		
***	Node Name: N-B170	Group: HH									
2YR	18.88	7.74	9.50	0.0006	67701.19	12.42	26.34	12.34	5.35		
10YR	21.10	8.86	9.50	0.0008	71017.11	12.42	42.86	12.33	8.01		
25YR	21.38	9.27	9.50	0.0008	92437.76	12.42	50.34	12.34	10.18		
50YR	21.62	9.71	9.50	0.0008	110642.40	12.42	57.79	12.35	13.43		
100YR	21.07	10.11	9.50	0.0008	110642.40	12.42	66.69	12.42	20.30		
500YR	20.90	10.55	9.50	0.0007	110642.40	12.42	77.76	12.42	32.10		
***	Node Name: N-B180	Group: HH									
2YR	18.41	7.84	10.00	0.0013	47345.30	13.97	201.66	14.03	189.00		
10YR	20.62	8.94	10.00	0.0011	94817.24	15.29	273.70	15.33	269.30		
25YR	21.06	9.35	10.00	0.0010	133629.15	14.79	317.48	14.87	310.99		
50YR	21.37	9.78	10.00	0.0009	160142.09	14.42	357.19	14.48	348.97		
100YR	20.81	10.19	10.00	0.0009	169236.63	14.11	400.31	14.11	389.97		
500YR	20.76	10.63	10.00	0.0010	175491.42	13.83	449.05	13.88	435.56		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max Inflow	Max Time	Max Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow	(cfs)		(cfs)

*** Node Name:	N-B190	Group:	HH								
2YR	17.58	7.95	10.00	0.0010	56157.82	13.95	152.76	14.71	141.19		
10YR	19.17	9.04	10.00	0.0012	59932.01	15.32	200.83	15.52	197.85		
25YR	19.42	9.44	10.00	0.0012	61403.28	15.34	232.20	15.47	229.20		
50YR	20.67	9.87	10.00	0.0010	62965.97	15.26	247.60	15.36	244.52		
100YR	20.42	10.30	10.00	0.0009	64669.24	15.29	265.77	15.33	262.41		
500YR	20.59	10.74	10.00	0.0007	66785.75	15.11	284.42	15.14	280.00		
*** Node Name:	N-B200	Group:	HH								
2YR	17.21	8.03	10.00	0.0010	44430.98	13.72	154.27	13.99	141.80		
10YR	17.76	9.13	10.00	0.0010	47445.15	12.98	195.79	15.32	189.04		
25YR	18.36	9.53	10.00	0.0010	48626.21	15.21	221.68	15.34	219.28		
50YR	20.22	9.92	10.00	0.0009	49806.74	15.16	236.40	15.26	234.03		
100YR	20.29	10.35	10.00	0.0009	51089.36	15.23	254.20	15.29	251.70		
500YR	20.48	10.79	10.00	0.0007	52396.09	15.08	273.21	15.11	269.96		
*** Node Name:	N-B210	Group:	HH								
2YR	17.14	8.04	10.00	0.0010	34174.01	13.70	93.52	13.94	83.15		
10YR	17.61	9.15	10.00	0.0010	36240.67	12.97	121.92	14.52	108.13		
25YR	18.24	9.54	10.00	0.0010	36973.89	12.79	127.38	13.95	111.21		
50YR	20.15	9.93	10.00	0.0010	37695.61	16.20	129.55	14.82	114.07		
100YR	20.27	10.36	10.00	0.0009	38501.70	16.10	140.85	14.92	122.06		
500YR	20.47	10.80	10.00	0.0007	39322.99	15.93	152.20	14.81	131.49		
*** Node Name:	N-B220	Group:	HH								
2YR	17.13	8.04	10.00	0.0010	11436.29	13.32	16.56	13.98	12.54		
10YR	17.61	9.15	10.00	0.0010	12113.47	13.17	29.93	13.38	25.60		
25YR	18.23	9.54	10.00	0.0010	12358.63	12.92	33.94	16.98	28.16		
50YR	20.15	9.93	10.00	0.0010	12599.33	12.71	35.16	16.74	31.16		
100YR	20.28	10.36	10.00	0.0009	12867.43	12.53	35.29	22.35	37.86		
500YR	20.47	10.80	10.00	0.0007	13137.13	12.71	35.00	15.93	38.00		
*** Node Name:	N-B230	Group:	HH								
2YR	13.32	9.57	13.00	0.0002	216953.00	12.42	41.48	13.32	16.56		
10YR	13.17	9.84	13.00	0.0002	225702.74	12.42	66.13	13.17	29.93		
25YR	13.32	9.97	13.00	0.0003	229941.92	12.42	77.26	12.92	33.94		
50YR	13.51	10.14	13.00	0.0003	232250.00	12.42	88.34	12.71	35.16		
100YR	13.72	10.36	13.00	0.0003	234379.38	12.42	101.58	12.53	35.29		
500YR	20.63	10.80	13.00	0.0004	238324.57	12.42	118.05	12.71	35.00		
*** Node Name:	N-C010	Group:	SML								
2YR	15.99	8.42	12.40	0.0010	5811.88	13.59	83.21	13.65	81.62		
10YR	16.11	9.94	12.40	0.0012	27704.24	12.87	103.76	12.90	100.51		
25YR	16.25	10.36	12.40	0.0013	55604.34	12.71	106.69	12.74	102.84		
50YR	16.54	10.74	12.40	0.0013	72973.63	12.60	106.91	12.63	102.45		
100YR	16.69	11.19	12.40	0.0013	81475.79	13.97	113.38	15.55	107.73		
500YR	16.80	11.68	12.40	0.0013	87166.20	14.77	122.93	15.41	115.22		
*** Node Name:	N-C020	Group:	SML								
2YR	15.96	8.44	10.00	0.0012	45375.91	13.68	74.43	13.69	68.52		
10YR	16.11	9.95	10.00	0.0014	154667.56	14.21	94.61	15.57	83.99		
25YR	16.24	10.37	10.00	0.0012	177159.79	13.98	100.05	15.83	85.86		
50YR	16.53	10.75	10.00	0.0011	187880.26	14.31	107.57	15.95	91.18		
100YR	16.69	11.19	10.00	0.0011	202427.08	13.87	120.45	15.98	97.77		
500YR	16.80	11.68	10.00	0.0010	211313.14	13.48	127.67	15.83	103.16		
*** Node Name:	N-C030	Group:	SML								
2YR	15.94	8.46	10.00	0.0011	48342.60	13.68	76.31	13.68	70.34		
10YR	16.11	9.95	10.00	0.0012	136111.03	13.61	114.00	14.51	91.43		
25YR	16.24	10.37	10.00	0.0011	160248.43	13.83	121.64	13.98	96.94		
50YR	16.53	10.75	10.00	0.0013	187560.79	13.84	133.47	14.33	105.23		
100YR	16.69	11.19	10.00	0.0012	213659.71	13.82	157.71	13.87	118.73		
500YR	16.79	11.68	10.00	0.0010	219256.02	13.45	181.37	13.47	126.85		
*** Node Name:	N-C040	Group:	SML								
2YR	15.88	8.48	10.00	0.0013	8956.27	14.44	58.95	14.46	58.09		
10YR	16.08	9.96	10.00	0.0012	43614.88	13.61	101.70	13.62	99.09		
25YR	16.22	10.38	10.00	0.0011	64644.47	14.23	108.04	14.23	102.16		
50YR	16.52	10.75	10.00	0.0013	89569.05	13.68	109.75	13.67	100.52		
100YR	16.69	11.20	10.00	0.0012	117631.21	13.30	100.70	15.19	89.56		
500YR	16.79	11.68	10.00	0.0010	124763.92	15.09	112.76	15.59	104.38		
*** Node Name:	N-C050	Group:	SML								
2YR	15.18	8.84	8.90	0.0019	5326.59	14.38	62.84	14.42	62.29		
10YR	16.06	9.98	8.90	0.0017	20643.24	13.74	137.40	13.72	136.37		
25YR	16.21	10.39	8.90	0.0014	25395.15	13.66	151.53	13.66	148.09		
50YR	16.51	10.76	8.90	0.0015	34020.37	13.57	163.77	13.59	159.15		
100YR	16.67	11.20	8.90	0.0014	53295.12	13.32	170.42	13.31	164.33		
500YR	16.78	11.69	8.90	0.0012	60625.86	13.09	171.30	13.09	163.06		
*** Node Name:	N-C060	Group:	SML								
2YR	15.94	8.46	9.60	-0.0038	20749.78	0.00	0.00	34.31	3.00		
10YR	16.07	9.98	9.60	-0.0038	195303.71	13.75	37.27	13.49	9.75		
25YR	16.22	10.39	9.60	-0.0032	223492.73	13.61	47.70	14.16	7.76		
50YR	16.52	10.76	9.60	-0.0032	243957.13	13.31	57.62	13.66	7.15		
100YR	16.68	11.20	9.60	-0.0038	271931.20	13.06	67.10	13.33	5.08		
500YR	16.78	11.69	9.60	-0.0038	295366.95	12.83	81.27	15.77	4.91		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Inflow	Max Time	Max Outflow	Max Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)		Outflow	(cfs)	
*** Node Name: N-C070 Group: SM1											
2YR	15.15	8.87	10.00	0.0048	7789.45	14.37	61.13		14.42	60.35	
10YR	15.99	10.00	10.00	0.0046	20795.00	13.78	132.87		13.75	131.32	
25YR	16.17	10.40	10.00	0.0042	25467.77	13.70	147.25		13.66	143.91	
50YR	16.48	10.77	10.00	0.0038	42817.99	13.60	158.68		13.62	154.53	
100YR	16.66	11.21	10.00	0.0039	64268.01	13.37	163.40		13.36	157.70	
500YR	16.77	11.69	10.00	0.0037	73963.97	13.13	161.17		13.12	153.37	
*** Node Name: N-C080 Group: SM1											
2YR	15.02	8.99	11.40	0.0011	115981.98	13.55	95.48		14.37	61.13	
10YR	14.98	10.33	11.40	0.0013	154115.08	12.93	176.29		13.78	132.87	
25YR	14.95	10.81	11.40	0.0013	184762.25	13.25	190.98		13.70	147.25	
50YR	15.14	11.19	11.40	0.0014	332850.38	13.20	219.65		13.60	158.68	
100YR	15.18	11.55	11.40	0.0014	556617.16	13.05	247.00		13.37	163.40	
500YR	15.34	11.85	11.40	0.0013	792269.16	12.98	270.37		13.13	161.17	
*** Node Name: N-C090 Group: SM1											
2YR	15.01	8.99	11.90	0.0031	6000.99	13.60	52.28		13.64	49.97	
10YR	14.96	10.33	11.90	0.0016	6833.65	12.92	108.86		12.92	102.59	
25YR	14.94	10.82	11.90	0.0019	23170.24	12.75	111.36		12.76	104.36	
50YR	15.06	11.21	11.90	0.0019	109626.89	12.63	112.30		13.11	105.35	
100YR	15.14	11.56	11.90	0.0019	202678.20	12.95	121.58		12.96	116.96	
500YR	15.32	11.85	11.90	0.0013	208491.15	12.85	131.45		12.85	126.01	
*** Node Name: N-C100 Group: SM1											
2YR	14.94	9.02	11.90	0.0050	10995.80	13.32	86.63		13.60	52.28	
10YR	14.57	10.46	11.90	0.0035	40261.35	12.88	122.21		12.92	108.86	
25YR	14.57	10.97	11.90	0.0036	40519.42	12.75	126.76		12.75	111.36	
50YR	14.42	11.37	11.90	0.0038	40740.66	13.00	134.71		12.63	112.30	
100YR	14.19	11.72	11.90	0.0036	41125.13	12.85	154.23		12.95	121.58	
500YR	14.06	12.10	11.90	0.0041	41533.42	12.72	169.21		12.85	131.45	
*** Node Name: N-C110 Group: SM1											
2YR	13.65	9.62	9.50	0.0050	12915.67	0.00	116.12		13.65	1.64	
10YR	14.20	10.63	9.50	0.0050	14656.29	0.00	116.12		13.68	24.62	
25YR	14.42	11.07	9.50	0.0050	15374.34	0.00	116.12		13.25	31.84	
50YR	14.31	11.46	9.50	0.0050	16005.57	0.00	116.12		13.03	37.03	
100YR	14.07	11.83	9.50	0.0050	16623.74	0.00	116.12		12.88	41.34	
500YR	13.98	12.23	9.50	0.0050	17717.62	0.00	116.12		12.76	44.44	
*** Node Name: N-C120 Group: SM1											
2YR	13.65	9.62	10.00	-0.0020	93379.75	13.27	145.03		13.60	159.58	
10YR	14.20	10.63	10.00	-0.0020	149902.89	12.94	259.79		13.01	225.77	
25YR	14.42	11.07	10.00	-0.0020	209360.07	12.87	302.82		13.24	253.84	
50YR	14.31	11.46	10.00	-0.0020	227781.27	13.00	352.17		13.05	289.77	
100YR	14.07	11.83	10.00	-0.0020	243707.04	12.90	415.12		12.92	321.39	
500YR	13.98	12.23	10.00	-0.0020	273506.90	12.78	481.17		13.50	391.28	
*** Node Name: N-C130 Group: SM1											
2YR	13.64	9.64	10.00	0.0004	112076.28	12.74	131.96		13.29	104.07	
10YR	14.16	10.65	10.00	0.0006	149026.53	12.87	229.69		12.92	191.09	
25YR	14.39	11.09	10.00	0.0006	178125.82	12.79	285.21		12.85	223.39	
50YR	14.29	11.48	10.00	0.0007	200346.56	12.74	340.93		12.83	256.42	
100YR	14.05	11.85	10.00	0.0008	223254.65	12.75	392.84		12.86	306.50	
500YR	13.96	12.25	10.00	0.0009	263663.32	12.74	470.65		12.75	361.68	
*** Node Name: N-C140 Group: SM1											
2YR	13.38	11.11	11.50	0.0004	33779.14	12.50	16.64		13.36	7.45	
10YR	13.36	11.73	11.50	0.0006	96211.17	12.50	27.68		13.36	17.61	
25YR	13.77	11.90	11.50	0.0007	112057.53	12.50	32.71		12.95	18.20	
50YR	13.98	12.10	11.50	0.0007	125817.45	12.50	37.72		12.75	18.47	
100YR	13.76	12.25	11.50	0.0007	132345.39	12.50	43.71		12.60	18.62	
500YR	13.54	12.37	11.50	0.0008	137749.29	12.50	51.17		13.31	19.93	
*** Node Name: N-C150 Group: SM1											
2YR	13.64	9.64	10.00	0.0004	51344.89	13.08	21.71		13.74	18.28	
10YR	14.16	10.65	10.00	0.0006	62189.74	13.08	39.78		13.66	27.36	
25YR	14.39	11.09	10.00	0.0006	67574.47	12.92	48.30		13.42	34.10	
50YR	14.29	11.48	10.00	0.0007	75024.02	12.92	56.96		13.26	39.50	
100YR	14.05	11.85	10.00	0.0008	82562.21	12.92	67.43		13.74	46.37	
500YR	13.95	12.25	10.00	0.0009	90930.61	12.92	80.55		13.58	57.93	
*** Node Name: N-C160 Group: SM1											
2YR	13.64	9.64	10.00	0.0004	18214.37	12.83	82.11		12.86	76.66	
10YR	14.16	10.65	10.00	0.0006	20375.57	12.91	140.69		12.93	135.03	
25YR	14.39	11.09	10.00	0.0006	20914.61	12.80	183.80		12.81	174.74	
50YR	14.29	11.48	10.00	0.0007	21393.57	12.75	217.73		12.74	206.07	
100YR	14.04	11.85	10.00	0.0008	21848.02	12.75	255.13		12.76	243.01	
500YR	13.95	12.26	10.00	0.0009	22347.75	12.75	301.48		12.75	289.17	
*** Node Name: N-C170 Group: SM1											
2YR	13.23	9.99	10.00	0.0007	11262.70	12.75	86.17		12.83	82.11	
10YR	13.04	11.84	10.00	0.0013	14060.38	12.95	148.03		12.91	140.69	
25YR	12.86	12.24	10.00	0.0016	14636.23	12.79	192.43		12.80	183.80	
50YR	12.84	12.37	10.00	0.0019	14825.42	12.64	213.66		12.75	217.73	
100YR	12.80	12.48	10.00	0.0022	14984.18	12.75	247.44		12.75	255.13	
500YR	12.78	12.59	10.00	0.0024	15142.68	12.75	293.18		12.75	301.48	

***** Node Maximum Comparisons *****

(Time units - hours)										
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max Outflow	
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow	(cfs)	
*** Node Name: N-C180 Group: SM1										
2YR	13.23	9.99	10.00	0.0007	11245.19	0.00	0.00	13.50	2.48	
10YR	13.04	11.84	10.00	0.0013	14042.94	0.00	0.00	13.15	7.49	
25YR	12.86	12.24	10.00	0.0016	14618.82	0.00	0.00	13.17	8.39	
50YR	12.84	12.37	10.00	0.0019	14807.63	0.00	0.00	0.00	1.28	
100YR	12.80	12.48	10.00	0.0022	14966.38	0.00	0.00	0.00	1.28	
500YR	12.78	12.59	10.00	0.0024	15124.86	0.00	0.00	0.00	1.28	
*** Node Name: N-C190 Group: SM1										
2YR	16.59	8.18	10.00	0.0016	6858.16	13.13	76.89	13.09	75.40	
10YR	16.34	9.58	10.00	0.0013	8182.11	12.82	101.87	12.84	98.32	
25YR	16.28	10.29	10.00	0.0012	8873.53	15.42	115.00	15.49	114.61	
50YR	16.57	10.69	10.00	0.0012	9265.49	15.41	123.50	15.48	123.10	
100YR	16.72	11.15	10.00	0.0013	10308.10	15.46	133.48	15.53	133.01	
500YR	16.83	11.65	10.00	0.0012	13472.56	15.31	143.58	15.39	142.75	
*** Node Name: N-C200 Group: SM1										
2YR	16.52	8.20	10.00	-0.0012	6575.79	13.59	64.46	13.65	62.74	
10YR	16.32	9.60	10.00	-0.0010	8093.81	15.86	82.06	15.89	81.86	
25YR	16.27	10.31	10.00	-0.0010	8865.81	15.80	107.34	15.83	107.17	
50YR	16.55	10.71	10.00	0.0012	9301.58	15.91	115.11	15.92	114.90	
100YR	16.71	11.17	10.00	0.0013	11585.49	15.92	124.00	15.92	123.74	
500YR	16.81	11.66	10.00	0.0011	20170.73	15.81	132.10	15.84	131.47	
*** Node Name: N-C210 Group: SM1										
2YR	15.93	8.46	10.00	0.0010	21319.41	13.67	100.18	13.68	96.54	
10YR	16.11	9.95	10.00	0.0011	77957.92	12.83	152.59	12.84	144.23	
25YR	16.24	10.37	10.00	0.0019	91857.63	12.60	182.80	12.61	168.24	
50YR	16.53	10.75	10.00	0.0022	110907.67	12.47	190.67	12.49	175.32	
100YR	16.69	11.19	10.00	0.0021	125835.24	13.85	197.68	13.86	175.33	
500YR	16.79	11.68	10.00	0.0017	140810.63	13.46	245.86	13.47	214.30	
*** Node Name: N-C220 Group: SM1										
2YR	15.90	8.48	10.00	-0.0010	16356.02	13.57	103.76	13.67	100.18	
10YR	16.10	9.95	10.00	0.0020	75276.31	12.79	189.35	12.83	152.59	
25YR	16.23	10.37	10.00	0.0049	96944.49	12.58	219.81	12.60	182.80	
50YR	16.52	10.75	10.00	0.0050	121000.54	12.45	228.66	12.47	190.67	
100YR	16.68	11.20	10.00	0.0050	148823.65	12.32	223.14	13.85	197.68	
500YR	16.79	11.68	10.00	0.0040	188010.72	13.45	279.41	13.46	245.86	
*** Node Name: N-C230 Group: SM1										
2YR	15.85	8.51	9.80	0.0006	126724.45	12.42	114.92	13.57	103.76	
10YR	15.84	10.08	9.80	0.0006	253729.56	12.42	182.84	12.79	189.35	
25YR	16.14	10.41	9.80	0.0007	280357.37	12.42	212.69	12.58	219.81	
50YR	16.48	10.77	9.80	0.0007	306287.39	12.42	238.09	12.45	228.66	
100YR	16.65	11.21	9.80	0.0008	387593.60	12.42	269.39	12.32	223.14	
500YR	16.77	11.69	9.80	0.0011	477026.25	13.53	313.55	13.45	279.41	
*** Node Name: N-C240 Group: SM1										
2YR	15.72	8.56	10.90	-0.0037	5167.80	13.70	83.29	13.67	83.31	
10YR	15.46	10.19	10.90	0.0019	6428.36	13.60	117.62	13.63	115.40	
25YR	15.16	10.59	10.90	0.0019	8668.10	13.61	132.18	13.64	130.64	
50YR	15.46	10.98	10.90	-0.0019	7412.77	14.15	153.11	14.17	152.65	
100YR	16.11	11.27	10.90	-0.0019	7888.34	13.98	207.76	13.98	207.40	
500YR	16.68	11.71	10.90	-0.0019	10720.97	13.88	259.84	13.88	259.21	
*** Node Name: N-C250 Group: SM1										
2YR	13.71	9.32	10.00	0.0050	4317.71	13.69	83.29	13.70	83.29	
10YR	14.97	10.33	10.00	-0.0050	5627.40	13.34	129.56	13.60	117.62	
25YR	14.79	10.76	10.00	0.0047	6149.98	13.60	133.10	13.61	132.18	
50YR	14.80	11.15	10.00	0.0050	7061.85	14.12	153.48	14.15	153.11	
100YR	14.28	11.56	10.00	0.0050	9337.38	13.97	208.19	13.98	207.76	
500YR	14.09	12.01	10.00	0.0050	20946.10	13.84	260.69	13.88	259.84	
*** Node Name: N-C260 Group: SM1										
2YR	13.71	9.44	10.00	-0.0012	16949.50	13.61	137.75	13.32	166.94	
10YR	14.52	10.48	10.00	0.0015	40667.67	12.92	208.17	12.90	202.27	
25YR	14.55	10.98	10.00	0.0014	43286.01	13.25	218.78	13.00	221.68	
50YR	14.40	11.37	10.00	0.0015	45450.37	13.06	247.84	12.80	231.66	
100YR	14.18	11.72	10.00	0.0016	48096.04	13.75	280.90	13.81	277.71	
500YR	14.06	12.10	10.00	0.0016	55009.47	13.53	349.32	13.57	342.83	
*** Node Name: N-C270 Group: SM1										
2YR	15.48	8.80	14.50	0.0003	63208.89	13.00	21.81	13.38	16.04	
10YR	16.31	10.81	14.50	0.0005	76722.59	12.92	40.65	12.69	16.53	
25YR	16.57	11.55	14.50	0.0006	128713.48	12.92	49.55	12.52	16.16	
50YR	16.90	12.06	14.50	0.0007	182297.30	12.92	58.55	12.38	15.74	
100YR	17.27	12.55	14.50	0.0008	244134.81	12.92	69.41	12.21	15.23	
500YR	17.65	13.04	14.50	0.0010	313417.76	12.92	83.04	11.96	14.70	
*** Node Name: N-D010 Group: SM2										
2YR	19.22	7.88	10.00	0.0007	171487.11	21.46	125.96	21.29	127.67	
10YR	21.16	9.03	10.00	0.0009	601427.00	20.67	286.19	21.35	285.51	
25YR	21.15	9.41	10.00	0.0009	675096.82	20.32	349.61	20.68	344.91	
50YR	21.30	9.82	10.00	0.0009	708487.50	19.16	442.30	19.72	424.87	
100YR	20.72	10.22	10.00	0.0007	784426.87	18.98	532.32	20.33	513.71	
500YR	20.66	10.66	10.00	0.0006	860737.18	18.78	678.22	19.23	648.91	

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max Inflow	Max Time	Max Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow	(cfs)	Outflow	(cfs)

*** Node Name:	N-D020	Group: SM2									
2YR	18.43	7.84	9.00	0.0007	259280.86	13.45	115.04	20.41	69.26		
10YR	20.63	8.94	9.00	0.0010	418533.90	13.20	188.42	13.26	94.25		
25YR	21.06	9.35	9.00	0.0010	430913.84	13.20	217.76	14.28	105.41		
50YR	21.37	9.78	9.00	0.0009	431642.52	13.02	242.65	13.87	132.63		
100YR	20.80	10.19	9.00	0.0008	432335.58	13.00	264.82	13.78	166.04		
500YR	20.76	10.63	9.00	0.0007	433083.49	13.17	313.59	13.74	210.74		
*** Node Name:	N-D030	Group: SM2									
2YR	18.48	7.90	9.00	0.0004	207687.62	13.08	96.61	13.44	77.41		
10YR	20.72	8.98	9.00	0.0007	342417.91	12.92	162.12	13.17	112.93		
25YR	21.14	9.39	9.00	0.0007	342860.85	13.13	211.04	13.20	123.79		
50YR	21.43	9.81	9.00	0.0006	342860.85	12.87	241.05	13.02	133.25		
100YR	20.83	10.22	9.00	0.0007	342860.85	12.89	271.91	13.47	144.95		
500YR	20.81	10.67	9.00	0.0008	342860.85	12.76	334.83	13.44	190.89		
*** Node Name:	N-D040	Group: SM2									
2YR	18.50	7.90	11.00	0.0006	41588.99	12.67	33.87	13.13	25.79		
10YR	20.74	8.99	11.00	0.0008	50013.12	12.51	60.96	12.56	62.04		
25YR	21.14	9.39	11.00	0.0008	64977.67	12.52	70.59	12.43	62.28		
50YR	21.43	9.81	11.00	0.0008	78290.12	12.52	80.82	12.32	59.70		
100YR	20.84	10.23	11.00	0.0010	100031.54	12.51	93.24	12.97	64.22		
500YR	20.81	10.67	11.00	0.0012	132060.24	12.51	108.61	12.74	90.53		
*** Node Name:	N-D050	Group: SM2									
2YR	12.72	10.43	12.00	0.0005	60413.82	12.42	37.31	12.67	33.87		
10YR	12.54	10.59	12.00	0.0003	61834.40	12.42	61.95	12.51	60.96		
25YR	12.53	10.64	12.00	0.0003	62261.25	12.42	73.17	12.52	70.59		
50YR	12.52	10.69	12.00	0.0003	62664.29	12.42	83.46	12.52	80.82		
100YR	12.52	10.74	12.00	0.0003	63124.13	12.42	95.75	12.51	93.24		
500YR	12.51	10.80	12.00	0.0003	63646.24	12.42	111.34	12.51	108.61		
*** Node Name:	N-D060	Group: SM2									
2YR	12.94	11.45	16.00	0.0006	2973.76	12.78	7.26	12.96	6.99		
10YR	13.13	12.62	16.00	0.0009	6496.01	12.75	12.63	13.17	10.56		
25YR	13.21	13.17	16.00	0.0011	9192.72	12.73	15.12	13.25	11.77		
50YR	13.28	13.66	16.00	-0.0013	11782.65	12.73	17.58	13.34	12.76		
100YR	13.36	14.12	16.00	-0.0016	14515.49	12.72	20.47	13.45	13.64		
500YR	13.44	14.49	16.00	-0.0021	20484.90	12.67	24.06	13.60	14.30		
*** Node Name:	N-D070	Group: SM2									
2YR	12.78	13.90	14.60	0.0001	3945.24	12.75	7.27	12.78	7.26		
10YR	12.75	14.12	14.60	-0.0008	6141.59	12.71	12.68	12.75	12.63		
25YR	12.73	14.17	14.60	0.0008	6825.70	12.70	15.16	12.73	15.12		
50YR	12.73	14.22	14.60	0.0009	7683.52	12.69	17.62	12.73	17.58		
100YR	13.22	14.27	14.60	0.0009	9937.65	12.68	20.53	12.72	20.47		
500YR	13.41	14.54	14.60	-0.0009	13576.26	12.67	24.32	12.67	24.06		
*** Node Name:	N-D080	Group: SM2									
2YR	12.75	14.65	16.50	0.0002	23834.14	12.50	8.88	12.75	7.27		
10YR	12.71	14.85	16.50	0.0002	25732.01	12.50	14.96	12.71	12.68		
25YR	12.70	14.94	16.50	0.0003	26509.04	12.50	17.74	12.70	15.16		
50YR	12.69	15.01	16.50	0.0003	27247.55	12.50	20.50	12.69	17.62		
100YR	12.69	15.11	16.50	0.0003	28104.89	12.50	23.82	12.68	20.53		
500YR	12.68	15.21	16.50	0.0004	29120.43	12.50	27.94	12.67	24.32		
*** Node Name:	N-D090	Group: SM2									
2YR	18.48	7.90	10.50	-0.0044	11799.61	13.01	25.63	17.66	58.87		
10YR	20.72	8.98	10.50	-0.0028	20238.89	13.63	51.67	13.62	73.58		
25YR	21.15	9.39	10.50	-0.0022	30979.02	13.17	66.02	13.13	81.75		
50YR	21.44	9.81	10.50	-0.0024	42910.56	12.90	76.21	12.87	88.12		
100YR	20.82	10.23	10.50	-0.0024	54504.25	12.86	88.75	12.67	90.75		
500YR	20.81	10.67	10.50	-0.0024	66860.34	12.76	111.07	12.76	106.87		
*** Node Name:	N-D100	Group: SM2									
2YR	18.48	7.90	10.50	-0.0012	11224.36	12.95	26.49	13.01	25.63		
10YR	20.72	8.98	10.50	-0.0013	19981.43	12.84	49.32	13.63	51.67		
25YR	21.15	9.39	10.50	-0.0008	30948.21	12.83	62.52	13.17	66.02		
50YR	21.44	9.81	10.50	-0.0007	42879.67	13.01	73.76	12.90	76.21		
100YR	20.82	10.23	10.50	0.0008	54474.34	12.83	89.06	12.86	88.75		
500YR	20.81	10.67	10.50	0.0009	66830.96	12.80	115.35	12.76	111.07		
*** Node Name:	N-D110	Group: SM2									
2YR	12.95	8.86	10.00	0.0008	26759.66	12.50	35.90	12.95	26.49		
10YR	12.84	9.68	10.00	0.0011	40108.90	12.50	60.78	12.84	49.32		
25YR	12.84	9.98	10.00	0.0012	45872.35	12.58	73.07	12.83	62.52		
50YR	12.90	10.38	10.00	0.0012	46174.80	12.56	90.72	13.01	73.76		
100YR	12.83	10.73	10.00	0.0012	46174.80	12.50	110.90	12.83	89.06		
500YR	12.82	11.10	10.00	0.0012	46174.80	12.50	133.54	12.80	115.35		
*** Node Name:	N-D120	Group: SM2									
2YR	18.75	7.96	10.00	0.0006	15714.88	13.72	2.56	42.97	1.32		
10YR	20.71	9.02	10.00	0.0007	19581.77	13.20	8.78	13.26	3.75		
25YR	21.05	9.41	10.00	0.0007	20999.36	12.97	10.36	13.21	3.43		
50YR	21.31	9.83	10.00	0.0008	22517.59	14.38	12.94	14.42	11.54		
100YR	20.74	10.24	10.00	0.0008	24021.03	13.93	24.94	14.14	23.32		
500YR	20.71	10.67	10.00	0.0007	25633.14	13.71	42.08	13.77	40.11		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max	Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max	Outflow
Name	Conditions		(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow		(cfs)

*** Node Name:	N-D130	Group:	SM2								
2YR	20.48	8.59	10.00	0.0006	75528.66	21.55	126.73	21.76	127.27		
10YR	20.89	9.41	10.00	0.0008	380440.11	20.47	287.08	20.79	286.48		
25YR	20.75	9.71	10.00	0.0007	538780.53	20.22	379.24	20.53	376.06		
50YR	20.62	10.05	10.00	0.0007	589455.93	19.29	501.77	19.62	492.80		
100YR	20.36	10.41	10.00	0.0007	665997.21	18.99	629.24	19.32	613.76		
500YR	20.22	10.82	10.00	0.0007	843552.27	18.68	835.68	18.92	812.57		
*** Node Name:	N-D140	Group:	SM2								
2YR	21.18	9.48	10.00	0.0007	450809.78	20.13	173.93	21.56	172.55		
10YR	20.73	10.64	10.00	0.0007	1463551.30	18.93	363.20	20.71	344.13		
25YR	20.33	11.04	10.00	0.0006	1812504.14	18.54	470.15	20.32	436.33		
50YR	19.50	11.27	10.00	0.0006	1958852.91	18.11	591.96	19.39	560.45		
100YR	19.36	11.53	10.00	0.0006	2124556.88	18.01	732.07	19.10	689.07		
500YR	18.40	11.81	10.00	0.0006	2187418.78	17.41	907.99	18.74	900.49		
*** Node Name:	N-D150	Group:	SM2								
2YR	21.08	9.50	10.60	0.0004	65843.65	15.18	23.51	15.34	21.92		
10YR	20.71	10.65	10.60	0.0008	194554.97	14.39	51.35	14.60	48.32		
25YR	20.33	11.04	10.60	0.0008	196427.50	14.25	63.09	14.41	59.38		
50YR	19.50	11.27	10.60	0.0007	197497.41	14.14	76.63	14.30	72.10		
100YR	19.36	11.53	10.60	0.0008	207533.29	13.96	97.44	14.15	92.26		
500YR	18.40	11.81	10.60	0.0007	229002.53	13.71	125.65	13.95	119.80		
*** Node Name:	N-D160	Group:	SM2								
2YR	15.28	11.23	12.10	0.0008	181587.31	12.50	100.60	15.18	23.51		
10YR	14.42	11.84	12.10	0.0010	295989.21	12.33	135.52	14.39	51.35		
25YR	14.28	12.05	12.10	0.0009	359134.69	12.41	127.55	14.25	63.09		
50YR	14.16	12.22	12.10	0.0008	477388.30	12.58	151.57	14.14	76.63		
100YR	13.97	12.38	12.10	0.0008	586028.57	12.50	181.67	13.96	97.44		
500YR	13.78	12.54	12.10	0.0006	664778.62	12.50	216.57	13.71	125.65		
*** Node Name:	N-D170	Group:	SM2								
2YR	15.28	11.23	10.80	0.0012	102964.19	17.91	1.71	17.77	3.62		
10YR	14.43	11.84	10.80	-0.0026	135560.31	18.76	2.71	18.67	5.92		
25YR	14.29	12.05	10.80	-0.0026	147377.41	19.66	2.21	18.92	4.67		
50YR	14.16	12.22	10.80	-0.0025	153212.68	25.57	2.00	26.00	4.98		
100YR	13.98	12.38	10.80	-0.0025	158574.30	25.36	2.25	25.20	5.49		
500YR	13.79	12.54	10.80	-0.0025	169809.29	26.12	2.23	26.01	5.50		
*** Node Name:	N-D180	Group:	SM2								
2YR	15.53	11.23	14.00	0.0002	36775.23	13.90	1.79	17.91	1.71		
10YR	14.50	11.82	14.00	0.0004	48564.54	13.12	4.93	18.76	2.71		
25YR	14.37	12.02	14.00	0.0005	52815.79	12.80	5.59	19.66	2.21		
50YR	14.24	12.19	14.00	0.0006	55023.37	12.64	6.17	25.57	2.00		
100YR	14.05	12.35	14.00	0.0006	57051.25	12.53	6.74	25.36	2.25		
500YR	13.86	12.51	14.00	0.0007	61007.92	12.47	7.30	26.12	2.23		
*** Node Name:	N-D190	Group:	SM2								
2YR	15.63	11.24	12.00	0.0003	38053.99	12.33	10.19	13.90	1.79		
10YR	14.49	11.69	12.00	0.0004	41310.44	12.33	16.73	13.11	6.00		
25YR	13.92	11.73	12.00	0.0005	41627.80	12.33	19.69	12.80	10.34		
50YR	13.55	11.77	12.00	0.0005	41879.68	12.33	22.64	12.64	15.08		
100YR	13.32	11.80	12.00	0.0005	42136.21	12.33	26.16	12.53	20.75		
500YR	13.04	11.84	12.00	0.0005	42444.74	12.33	30.55	12.47	27.07		
*** Node Name:	N-D200	Group:	SM2								
2YR	15.22	11.24	10.80	0.0009	8216.58	12.68	10.17	14.14	9.49		
10YR	14.42	11.89	10.80	0.0010	9358.38	14.13	18.79	14.34	18.69		
25YR	14.29	12.11	10.80	0.0009	9750.72	14.24	22.50	14.40	22.51		
50YR	14.19	12.29	10.80	0.0009	10074.52	14.33	25.92	14.44	26.03		
100YR	14.03	12.46	10.80	0.0008	10375.58	14.38	30.11	14.47	30.32		
500YR	13.87	12.63	10.80	0.0006	10678.05	14.41	35.02	14.47	35.30		
*** Node Name:	N-D210	Group:	SM2								
2YR	14.84	11.34	13.00	-0.0015	61044.31	12.75	25.45	12.68	10.17		
10YR	14.30	12.37	13.00	-0.0015	69192.55	12.71	46.41	14.13	18.79		
25YR	14.27	12.80	13.00	-0.0015	72717.99	12.67	54.42	14.24	22.50		
50YR	14.27	13.21	13.00	-0.0015	74369.38	12.59	61.17	14.33	25.92		
100YR	14.25	13.69	13.00	-0.0015	74369.38	12.58	67.55	14.38	30.11		
500YR	14.26	14.28	13.00	-0.0015	74369.38	12.58	75.92	14.41	35.02		
*** Node Name:	N-D220	Group:	SM2								
2YR	13.07	11.70	14.00	0.0003	27714.75	12.58	13.26	13.28	9.69		
10YR	14.19	12.48	14.00	0.0005	30870.46	12.50	22.74	12.81	15.26		
25YR	14.17	12.97	14.00	0.0005	32738.34	12.50	27.09	12.70	16.36		
50YR	14.17	13.49	14.00	0.0005	34949.06	12.50	31.44	12.61	16.70		
100YR	14.18	14.06	14.00	0.0007	37186.14	12.50	36.66	12.52	16.25		
500YR	14.20	14.78	14.00	0.0009	37186.14	12.50	43.16	12.53	14.98		
*** Node Name:	N-E010	Group:	VG								
2YR	20.70	10.95	10.00	0.0009	1242039.14	17.77	187.56	20.58	160.60		
10YR	19.31	11.88	10.00	0.0009	1868354.47	16.33	413.75	19.15	338.50		
25YR	18.69	12.18	10.00	0.0008	1956738.63	16.57	504.54	18.64	444.06		
50YR	18.29	12.42	10.00	0.0006	2018230.22	16.67	613.38	18.15	559.77		
100YR	18.06	12.69	10.00	0.0004	2114703.45	16.62	750.22	18.10	694.99		
500YR	17.76	12.97	10.00	0.0004	2140804.65	16.59	927.08	17.61	868.39		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Inflow	Max Time	Max Outflow	Max Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)		Outflow	(cfs)	
*** Node Name: N-E020 Group: VG											
2YR	20.74	10.95	11.00	0.0005	64604.42	12.33	29.63		32.83	23.89	
10YR	19.31	11.89	11.00	0.0003	64991.54	15.41	50.32		15.49	41.92	
25YR	18.64	12.19	11.00	0.0003	64991.54	15.45	67.74		15.53	59.11	
50YR	18.22	12.44	11.00	0.0003	64991.54	14.54	88.95		14.46	78.11	
100YR	18.02	12.72	11.00	0.0003	64991.54	14.04	104.57		14.01	95.61	
500YR	17.75	13.01	11.00	0.0005	64991.54	13.65	124.83		13.69	116.81	
*** Node Name: N-E030 Group: VG											
2YR	20.74	10.95	11.00	0.0005	15905.95	12.33	11.00		11.93	5.87	
10YR	19.31	11.89	11.00	0.0004	16012.67	12.33	18.27		12.43	14.86	
25YR	18.65	12.19	11.00	0.0004	16012.67	12.33	21.58		12.43	17.77	
50YR	18.23	12.45	11.00	0.0004	16012.67	12.33	24.87		12.43	20.48	
100YR	18.02	12.72	11.00	0.0005	16012.67	12.33	28.81		12.43	23.50	
500YR	17.75	13.02	11.00	0.0007	16012.67	12.33	33.71		12.45	25.68	
*** Node Name: N-E040 Group: VG											
2YR	20.79	10.97	12.00	0.0001	123535.02	12.42	72.49		13.65	24.40	
10YR	19.27	11.91	12.00	0.0003	107970.14	12.42	133.69		15.41	49.50	
25YR	17.61	12.25	12.00	0.0004	108698.78	12.47	162.23		15.45	66.58	
50YR	17.15	12.62	12.00	0.0006	108698.78	12.42	212.10		14.55	86.52	
100YR	17.02	13.07	12.00	0.0009	108698.78	12.46	237.28		14.12	99.93	
500YR	17.08	13.55	12.00	0.0016	108698.78	12.42	276.17		13.78	116.43	
*** Node Name: N-E050 Group: VG											
2YR	20.80	10.97	12.00	0.0005	40225.32	12.33	29.53		12.62	18.82	
10YR	19.27	11.92	12.00	0.0006	42346.15	12.33	47.08		12.56	33.85	
25YR	17.62	12.26	12.00	0.0007	42317.76	12.33	55.14		12.54	40.46	
50YR	17.14	12.63	12.00	0.0007	42317.76	12.33	63.18		12.39	65.69	
100YR	17.02	13.08	12.00	0.0008	42317.76	12.33	72.91		12.28	64.76	
500YR	17.08	13.56	12.00	0.0009	42317.76	12.33	84.94		12.41	65.71	
*** Node Name: N-E060 Group: VG											
2YR	12.80	11.17	14.00	0.0004	16343.20	12.25	9.20		13.16	3.03	
10YR	12.93	12.05	14.00	0.0008	18041.81	12.25	15.17		13.52	3.85	
25YR	12.97	12.44	14.00	0.0009	18858.16	12.25	17.87		13.34	4.02	
50YR	13.00	12.81	14.00	0.0010	19639.91	12.25	20.57		13.21	4.22	
100YR	13.05	13.24	14.00	0.0011	20567.05	12.25	23.79		13.02	4.39	
500YR	13.49	13.82	14.00	0.0013	21863.40	12.25	27.79		12.81	4.38	
*** Node Name: N-E070 Group: VG											
2YR	20.77	10.97	14.00	0.0001	20184.34	14.07	44.31		14.13	43.54	
10YR	19.18	11.93	14.00	0.0003	22254.35	13.66	86.69		13.74	84.85	
25YR	15.35	12.54	14.00	0.0013	23679.67	15.11	99.96		13.45	95.22	
50YR	15.17	12.95	14.00	0.0014	24654.13	13.85	119.23		13.16	102.22	
100YR	15.93	13.47	14.00	0.0014	25925.13	13.18	128.36		13.60	108.53	
500YR	16.10	13.99	14.00	0.0017	27210.31	12.75	137.91		12.62	115.54	
*** Node Name: N-E080 Group: VG											
2YR	14.10	11.83	14.00	0.0004	23517.94	13.90	43.40		14.08	43.08	
10YR	13.79	12.73	14.00	-0.0014	25834.61	13.28	92.17		13.69	84.32	
25YR	13.78	12.98	14.00	-0.0011	25332.26	12.87	96.44		15.11	98.33	
50YR	13.85	13.28	14.00	0.0012	26075.85	13.93	107.44		13.85	116.30	
100YR	15.65	13.61	14.00	0.0014	26753.96	13.30	115.29		13.18	122.25	
500YR	14.96	14.31	14.00	0.0016	27511.96	12.85	127.25		13.05	126.01	
*** Node Name: N-E090 Group: VG											
2YR	14.00	12.47	15.00	0.0007	42916.24	12.85	44.66		13.95	41.62	
10YR	13.28	13.15	15.00	0.0009	45365.03	13.54	81.20		13.28	87.72	
25YR	13.65	13.22	15.00	0.0009	45449.71	13.05	92.10		13.43	91.25	
50YR	13.85	13.56	15.00	0.0007	46525.42	13.31	101.40		13.94	103.72	
100YR	15.47	13.79	15.00	0.0006	47498.24	13.06	110.38		13.55	109.53	
500YR	14.65	14.55	15.00	0.0007	50620.55	12.83	121.02		13.06	115.90	
*** Node Name: N-E100 Group: VG											
2YR	13.91	12.70	14.00	0.0004	84520.15	13.07	47.60		13.72	35.84	
10YR	13.62	13.59	14.00	0.0006	92262.58	12.94	95.14		13.73	67.49	
25YR	13.69	13.85	14.00	0.0008	94434.26	12.69	112.35		13.71	74.50	
50YR	13.87	14.31	14.00	0.0009	95403.98	12.56	118.92		14.17	83.88	
100YR	13.94	14.80	14.00	0.0009	94994.64	12.56	123.46		13.65	86.85	
500YR	14.25	15.51	14.00	0.0009	94994.64	12.75	136.45		13.38	85.39	
*** Node Name: N-E110 Group: VG											
2YR	13.31	12.86	14.00	0.0005	40660.75	12.81	39.80		13.30	33.94	
10YR	13.58	13.81	14.00	0.0007	45275.71	12.69	67.65		12.94	67.25	
25YR	13.59	14.32	14.00	0.0007	46221.22	12.67	79.17		12.69	74.04	
50YR	13.58	14.91	14.00	0.0008	46272.08	12.66	90.60		12.56	74.17	
100YR	13.65	15.41	14.00	0.0009	46169.99	12.68	105.41		12.44	72.28	
500YR	13.91	16.06	14.00	0.0018	46119.12	12.57	146.18		12.80	77.56	
*** Node Name: N-E120 Group: VG											
2YR	13.36	14.12	16.00	0.0003	19941.45	12.42	9.16		13.34	7.34	
10YR	13.19	14.71	16.00	0.0005	22545.40	12.47	18.13		13.08	14.70	
25YR	13.30	14.98	16.00	0.0005	23695.94	12.45	22.35		12.94	17.44	
50YR	12.91	15.16	16.00	0.0006	24320.43	12.42	26.49		12.91	22.88	
100YR	13.62	15.54	16.00	0.0006	25674.62	12.42	31.21		12.97	25.51	
500YR	13.80	16.25	16.00	0.0007	27262.87	12.39	36.03		12.73	28.78	

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max Inflow	Max Time	Max Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow	(cfs)	Outflow	(cfs)

*** Node Name:	N-E130	Group:	VG								
2YR	13.31	14.23	16.00	0.0004	19218.41	12.42	8.80	13.20	5.34		
10YR	13.12	14.89	16.00	0.0005	20935.90	12.42	16.51	13.02	10.73		
25YR	13.13	15.19	16.00	0.0006	21684.67	12.42	20.01	12.94	12.99		
50YR	13.07	15.49	16.00	0.0007	22399.16	12.42	23.45	13.20	15.65		
100YR	13.14	15.94	16.00	0.0007	23628.87	12.42	27.51	12.99	17.44		
500YR	13.51	16.58	16.00	0.0009	23745.82	12.58	38.15	12.77	19.25		
*** Node Name:	N-E140	Group:	VG								
2YR	12.83	16.01	18.50	0.0004	15763.56	12.33	7.89	12.83	4.40		
10YR	12.73	16.51	18.50	0.0005	16952.67	12.33	13.76	12.73	8.55		
25YR	12.72	16.72	18.50	0.0006	17445.32	12.33	16.47	12.71	10.41		
50YR	12.71	16.93	18.50	0.0006	17914.66	12.33	19.18	12.70	12.22		
100YR	12.70	17.17	18.50	0.0007	18201.54	12.33	22.42	13.09	21.39		
500YR	12.58	17.42	18.50	0.0008	18393.01	12.33	26.47	12.58	25.15		
*** Node Name:	N-E150	Group:	VG								
2YR	12.55	15.16	17.00	0.0004	7965.95	12.42	6.39	12.54	6.75		
10YR	13.25	16.31	17.00	0.0006	9760.28	12.42	11.58	12.33	7.00		
25YR	13.44	16.72	17.00	0.0009	10547.16	12.46	14.75	12.25	6.99		
50YR	13.61	17.15	17.00	0.0011	11065.72	12.41	17.36	12.18	6.95		
100YR	13.75	17.66	17.00	0.0013	11065.72	12.31	19.44	12.11	6.87		
500YR	13.94	18.30	17.00	0.0015	11065.72	12.23	20.85	12.43	6.79		
*** Node Name:	N-E160	Group:	VG								
2YR	13.00	15.81	18.00	0.0003	16915.63	12.42	5.80	13.00	2.98		
10YR	13.25	16.34	18.00	0.0004	18154.26	12.42	9.86	12.78	6.18		
25YR	13.45	16.76	18.00	0.0005	19137.03	12.42	11.71	12.53	6.47		
50YR	13.62	17.20	18.00	0.0006	20186.82	12.42	13.56	12.41	6.44		
100YR	13.77	17.71	18.00	0.0008	21475.74	12.42	15.77	12.31	6.40		
500YR	13.95	18.35	18.00	0.0009	22206.03	12.42	18.53	12.23	6.40		
*** Node Name:	N-E170	Group:	VG								
2YR	12.98	14.70	16.00	0.0005	15818.94	12.62	17.41	12.97	15.10		
10YR	12.79	15.27	16.00	0.0007	16658.53	12.50	28.99	12.78	24.67		
25YR	12.77	15.46	16.00	0.0008	17047.24	12.49	32.72	12.76	28.12		
50YR	12.76	15.67	16.00	0.0009	17467.50	12.50	36.18	12.75	31.82		
100YR	12.75	15.90	16.00	0.0008	17944.98	12.50	41.16	12.74	36.18		
500YR	13.63	16.44	16.00	-0.0011	18098.64	12.50	47.30	12.57	65.29		
*** Node Name:	N-E180	Group:	VG								
2YR	12.91	15.39	17.00	0.0005	10190.56	12.49	10.19	12.89	7.64		
10YR	13.04	16.05	17.00	0.0008	11058.96	12.42	14.23	13.33	10.40		
25YR	13.07	16.42	17.00	0.0008	11804.61	12.33	15.84	14.08	10.50		
50YR	13.07	16.76	17.00	0.0008	12481.86	12.30	17.03	13.51	11.58		
100YR	13.11	17.16	17.00	0.0009	12955.63	12.33	18.74	13.27	12.30		
500YR	13.48	17.72	17.00	0.0010	12955.63	12.42	21.11	12.87	12.45		
*** Node Name:	N-E190	Group:	VG								
2YR	12.69	16.02	18.00	0.0004	12790.98	12.42	7.31	12.56	5.76		
10YR	13.12	16.90	18.00	0.0005	14412.86	12.42	12.43	13.96	6.49		
25YR	13.22	17.38	18.00	0.0007	15403.95	12.42	14.77	14.59	6.54		
50YR	13.29	17.84	18.00	0.0008	16371.98	12.42	17.10	13.97	6.88		
100YR	13.37	18.40	18.00	0.0010	16695.56	12.42	19.90	13.76	7.18		
500YR	13.49	19.10	18.00	0.0012	16695.56	12.42	23.39	13.52	7.28		
*** Node Name:	N-E200	Group:	VG								
2YR	20.39	11.00	11.00	0.0005	47805.05	15.25	50.27	15.36	47.37		
10YR	19.18	11.90	11.00	0.0009	47645.16	16.27	119.22	15.14	110.19		
25YR	18.58	12.21	11.00	0.0007	47639.96	14.51	144.16	14.58	131.47		
50YR	18.07	12.47	11.00	0.0008	47633.23	13.85	149.49	14.79	143.38		
100YR	17.93	12.74	11.00	0.0008	47622.42	14.63	169.02	14.66	164.49		
500YR	17.63	13.04	11.00	0.0012	47603.35	14.33	299.52	14.49	193.49		
*** Node Name:	N-E210	Group:	VG								
2YR	15.86	11.20	13.00	0.0005	12239.23	15.20	49.62	15.26	49.27		
10YR	15.15	12.28	13.00	-0.0028	14056.33	14.67	98.44	16.27	117.97		
25YR	14.51	12.59	13.00	-0.0020	14653.61	14.58	122.27	14.51	141.92		
50YR	13.85	12.66	13.00	-0.0024	14777.60	14.72	145.98	13.85	146.21		
100YR	14.68	12.99	13.00	-0.0025	15346.53	14.61	166.33	14.66	166.26		
500YR	14.59	13.44	13.00	-0.0033	15166.86	14.56	195.64	14.33	296.03		
*** Node Name:	N-E220	Group:	VG								
2YR	15.47	11.47	15.00	0.0002	11389.57	15.11	49.52	15.20	49.29		
10YR	14.98	12.81	15.00	-0.0011	13787.10	14.57	98.89	14.68	97.87		
25YR	14.52	13.39	15.00	0.0005	14872.62	14.50	117.86	14.58	121.56		
50YR	14.73	13.89	15.00	0.0007	15837.51	14.58	146.17	14.73	145.24		
100YR	14.65	14.60	15.00	0.0009	17098.65	14.46	165.98	14.63	165.43		
500YR	14.57	15.66	15.00	-0.0013	18039.04	14.44	194.86	14.57	194.57		
*** Node Name:	N-E230	Group:	VG								
2YR	15.14	14.81	17.00	0.0003	105391.85	14.37	51.83	15.11	48.47		
10YR	14.58	15.74	17.00	0.0005	116168.44	13.87	112.69	14.57	96.91		
25YR	14.52	16.07	17.00	0.0006	119895.06	13.47	125.35	14.50	115.52		
50YR	14.60	16.54	17.00	0.0006	125609.27	14.04	165.70	14.59	143.56		
100YR	14.56	16.98	17.00	0.0007	130641.61	13.37	181.27	14.48	162.90		
500YR	14.45	17.34	17.00	0.0008	130832.51	13.66	202.03	14.44	191.28		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)		
*** Node	Name: N-E240	Group: VG									
2YR	14.66	15.90	18.00	0.0003	38229.03	14.28	47.30	14.57	46.22		
10YR	13.90	16.98	18.00	-0.0016	42315.33	13.73	127.29	13.88	98.46		
25YR	14.26	17.30	18.00	-0.0016	43538.48	13.30	129.58	14.13	107.35		
50YR	14.04	17.65	18.00	-0.0016	44897.93	14.14	138.92	14.04	148.90		
100YR	14.06	17.77	18.00	-0.0016	45403.07	13.83	157.00	14.04	155.77		
500YR	14.29	18.10	18.00	0.0016	46225.26	15.05	206.35	14.28	175.64		
*** Node	Name: N-E250	Group: VG									
2YR	14.49	16.33	17.00	0.0003	66923.93	13.75	53.06	14.29	46.44		
10YR	13.73	17.24	17.00	0.0008	70397.21	13.75	95.97	13.73	125.55		
25YR	14.22	17.43	17.00	0.0008	70386.10	13.50	116.10	13.30	126.98		
50YR	14.06	17.87	17.00	0.0008	70347.83	13.50	136.63	14.14	137.01		
100YR	14.02	18.11	17.00	0.0008	70316.18	13.50	161.41	13.85	154.45		
500YR	14.21	18.93	17.00	-0.0010	70191.36	13.50	192.51	15.05	204.42		
*** Node	Name: N-E260	Group: VG									
2YR	20.34	11.05	10.00	0.0008	1071924.70	16.25	162.58	17.59	118.06		
10YR	19.09	11.97	10.00	0.0009	1256323.10	16.25	302.16	18.02	233.44		
25YR	18.56	12.28	10.00	0.0008	1313331.68	16.02	369.24	18.01	297.09		
50YR	18.20	12.54	10.00	0.0006	1360839.23	16.00	437.52	17.74	363.32		
100YR	17.99	12.82	10.00	0.0004	1411905.67	16.00	520.36	17.42	442.52		
500YR	17.65	13.12	10.00	0.0004	1464974.53	16.00	624.92	17.29	550.19		
*** Node	Name: N-E270	Group: VG									
2YR	20.34	11.05	10.00	0.0006	21597.48	12.58	7.93	12.62	4.58		
10YR	19.09	11.97	10.00	0.0009	21597.48	12.58	13.93	13.19	5.42		
25YR	18.56	12.28	10.00	0.0009	21597.48	12.58	16.71	13.19	8.35		
50YR	18.20	12.54	10.00	0.0007	21597.48	12.58	19.49	13.06	12.18		
100YR	17.99	12.82	10.00	0.0006	21597.48	12.58	22.82	12.95	16.62		
500YR	17.65	13.12	10.00	0.0006	21597.48	12.58	26.99	12.86	21.67		
*** Node	Name: N-F010	Group: MC									
2YR	14.36	8.15	13.25	-0.0009	124365.71	12.83	56.93	14.36	33.83		
10YR	15.17	9.69	13.25	-0.0009	147522.64	12.62	103.50	13.32	45.91		
25YR	15.20	10.32	13.25	-0.0009	160968.00	12.52	122.44	13.05	48.13		
50YR	15.08	10.89	13.25	-0.0009	172878.86	12.58	140.12	12.84	48.92		
100YR	15.24	11.54	13.25	0.0009	181244.96	12.58	162.45	14.04	49.28		
500YR	15.36	12.28	13.25	0.0010	189742.92	12.58	188.42	14.11	52.75		
*** Node	Name: N-F020	Group: MC									
2YR	14.35	8.17	12.00	0.0050	1291.09	13.93	18.04	13.95	17.98		
10YR	15.14	9.72	12.00	0.0050	348.84	13.57	24.05	13.57	23.98		
25YR	15.16	10.36	12.00	-0.0050	204.50	14.21	25.76	14.21	25.74		
50YR	15.07	10.93	12.00	-0.0050	204.50	13.60	31.57	13.60	31.52		
100YR	15.24	11.58	12.00	-0.0050	204.50	12.36	32.22	12.36	31.56		
500YR	15.37	12.32	12.00	-0.0050	204.50	12.44	34.84	12.45	34.41		
*** Node	Name: N-F030	Group: MC									
2YR	13.94	8.29	13.00	0.0002	100944.91	12.42	25.81	13.93	18.04		
10YR	15.06	9.80	13.00	0.0005	112884.05	12.58	62.47	13.57	24.05		
25YR	14.95	10.50	13.00	0.0007	118551.83	12.50	81.42	14.21	25.76		
50YR	15.01	11.06	13.00	0.0007	123576.47	12.50	98.51	13.60	31.57		
100YR	15.25	11.73	13.00	0.0008	131309.34	12.52	120.57	12.36	32.22		
500YR	15.42	12.49	13.00	0.0013	138639.34	12.49	213.64	12.44	34.84		
*** Node	Name: N-F040	Group: MC									
2YR	13.55	9.91	13.00	0.0012	26363.83	12.40	26.15	13.53	13.00		
10YR	13.04	10.57	13.00	0.0011	28708.76	12.71	36.41	13.03	34.24		
25YR	12.96	10.80	13.00	0.0010	29435.33	12.63	46.14	12.95	42.94		
50YR	12.94	11.19	13.00	0.0008	30830.51	12.70	68.88	12.93	59.20		
100YR	15.12	11.78	13.00	0.0008	32718.05	12.46	77.21	12.67	65.45		
500YR	15.29	12.54	13.00	0.0010	35634.41	12.34	88.12	12.49	139.87		
*** Node	Name: N-F050	Group: MC									
2YR	13.53	9.94	13.30	-0.0050	629.09	12.77	14.91	12.40	17.76		
10YR	13.01	10.74	13.30	-0.0050	407.36	12.91	31.24	12.92	31.22		
25YR	12.95	11.22	13.30	-0.0050	163.75	12.94	38.53	12.94	38.52		
50YR	12.81	12.05	13.30	-0.0050	161.00	12.67	69.46	12.70	60.25		
100YR	12.66	12.36	13.30	-0.0050	152.20	13.23	82.01	13.24	61.04		
500YR	13.39	12.79	13.30	-0.0050	152.20	12.33	71.70	12.90	66.30		
*** Node	Name: N-F060	Group: MC									
2YR	13.20	10.58	13.00	0.0004	64074.41	12.33	33.33	12.77	14.91		
10YR	12.95	11.44	13.00	0.0008	68399.46	12.33	65.46	12.91	31.24		
25YR	12.94	11.86	13.00	0.0009	70588.69	12.33	80.56	12.94	38.53		
50YR	12.67	12.16	13.00	0.0010	71839.46	12.35	96.13	12.67	69.46		
100YR	12.92	12.65	13.00	0.0011	74318.41	12.33	114.07	13.23	82.01		
500YR	12.91	13.21	13.00	0.0013	76052.27	12.33	136.66	12.33	71.70		
*** Node	Name: N-F070	Group: MC									
2YR	12.56	11.58	15.65	0.0004	817.08	12.53	6.45	12.56	6.44		
10YR	12.62	12.10	15.65	0.0006	796.09	12.54	12.48	12.57	12.39		
25YR	12.48	12.29	15.65	0.0050	737.08	12.56	15.20	12.48	15.94		
50YR	12.60	12.41	15.65	0.0049	720.18	12.59	17.85	12.60	17.84		
100YR	12.84	12.91	15.65	-0.0045	487.02	12.62	21.03	12.64	20.87		
500YR	12.90	13.60	15.65	0.0050	150.00	12.43	21.57	13.22	21.42		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Inflow	Max Time	Max Outflow	Max Outflow
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)		Outflow	(cfs)	

*** Node Name:	N-F080	Group:	MC								
2YR	12.53	13.56	15.65	0.0005	1224.02	12.50	6.53	12.53	6.45		
10YR	12.55	14.18	15.65	0.0007	2538.01	12.50	12.76	12.54	12.48		
25YR	12.57	14.45	15.65	0.0008	3649.92	12.50	15.73	12.56	15.20		
50YR	12.59	14.72	15.65	0.0009	4817.75	12.50	18.75	12.59	17.85		
100YR	12.61	15.02	15.65	-0.0018	6195.73	12.50	22.41	12.62	21.03		
500YR	12.89	16.02	15.65	-0.0025	8725.00	12.50	27.01	12.43	21.57		
*** Node Name:	N-G010	Group:	BL								
2YR	25.44	7.04	8.00	0.0004	391277.20	23.85	80.00	26.01	79.41		
10YR	25.78	7.87	8.00	0.0005	870081.04	23.37	132.62	26.25	127.80		
25YR	26.45	8.17	8.00	0.0004	1235282.48	23.85	156.29	27.08	149.89		
50YR	27.05	8.43	8.00	0.0004	1542280.55	24.31	173.66	28.65	171.87		
100YR	27.23	8.75	8.00	0.0003	1930122.05	25.28	182.91	30.97	196.06		
500YR	26.43	9.32	8.00	0.0003	2623243.95	30.37	185.04	32.56	228.85		
*** Node Name:	N-G020	Group:	BL								
2YR	25.25	7.18	8.00	0.0004	1490355.04	14.87	146.01	23.85	80.00		
10YR	24.66	8.45	8.00	0.0005	1558539.94	18.83	219.34	23.37	132.62		
25YR	25.01	8.98	8.00	0.0005	1614247.72	18.29	254.57	23.85	156.29		
50YR	25.79	9.44	8.00	0.0005	1822876.16	17.56	283.42	24.31	173.66		
100YR	26.65	9.89	8.00	0.0004	2090865.40	15.00	316.80	25.28	182.91		
500YR	27.47	10.44	8.00	0.0003	2327732.53	14.75	368.81	30.37	185.04		
*** Node Name:	N-G030	Group:	BL								
2YR	25.29	7.18	10.00	-0.0001	493098.88	12.00	9.51	14.87	17.68		
10YR	24.71	8.45	10.00	0.0001	512343.06	18.12	10.36	13.77	17.32		
25YR	25.06	8.98	10.00	0.0001	529307.72	17.17	10.36	13.50	17.28		
50YR	25.86	9.43	10.00	0.0001	996413.81	16.56	10.36	13.27	17.24		
100YR	26.71	9.88	10.00	0.0002	1588582.12	16.06	10.36	13.03	17.19		
500YR	27.51	10.44	10.00	0.0002	1961687.63	15.60	10.36	35.02	28.09		
*** Node Name:	N-G040	Group:	BL								
2YR	12.00	8.00	11.50	0.0000	34.33	0.00	0.00	12.00	9.51		
10YR	12.00	8.00	11.50	0.0000	34.33	0.00	0.00	18.12	10.36		
25YR	12.00	8.00	11.50	0.0000	34.33	0.00	0.00	17.17	10.36		
50YR	12.00	8.00	11.50	0.0000	34.33	0.00	0.00	16.56	10.36		
100YR	12.00	8.00	11.50	0.0000	34.33	0.00	0.00	16.06	10.36		
500YR	12.00	8.00	11.50	0.0000	34.33	0.00	0.00	15.60	10.36		
*** Node Name:	N-G050	Group:	BL								
2YR	20.58	8.47	10.00	0.0006	143140.75	19.93	83.51	20.73	82.66		
10YR	19.19	10.03	10.00	0.0010	640010.07	17.68	212.40	19.26	198.12		
25YR	19.47	10.37	10.00	0.0011	818367.39	17.28	252.52	19.21	233.09		
50YR	19.84	10.65	10.00	0.0012	973383.99	17.15	288.54	19.09	263.25		
100YR	20.39	10.98	10.00	0.0013	1168184.22	17.07	330.93	19.02	297.92		
500YR	20.62	11.37	10.00	0.0010	1444506.09	17.41	394.09	18.99	341.33		
*** Node Name:	N-G060	Group:	BL								
2YR	13.54	12.05	13.90	0.0007	15379.63	12.33	11.12	13.54	2.44		
10YR	12.87	12.87	13.90	0.0011	17512.23	12.33	18.25	12.87	8.75		
25YR	12.69	13.02	13.90	0.0012	17860.95	12.33	21.48	12.69	13.10		
50YR	12.55	13.10	13.90	0.0013	17860.93	12.33	24.70	12.55	19.00		
100YR	12.46	13.18	13.90	0.0014	17860.92	12.33	28.55	12.46	25.47		
500YR	12.41	13.24	13.90	0.0014	17860.90	12.33	33.34	12.41	31.93		
*** Node Name:	N-G070	Group:	BL								
2YR	13.55	11.06	13.50	0.0005	5302.27	13.45	6.80	13.55	6.78		
10YR	12.83	11.46	13.50	0.0007	5651.93	12.79	18.98	12.83	18.95		
25YR	12.73	11.60	13.50	0.0007	5765.94	12.70	24.52	12.73	24.48		
50YR	12.66	11.71	13.50	0.0007	5865.16	12.63	29.85	12.66	29.80		
100YR	12.62	11.83	13.50	0.0007	5969.09	12.57	35.89	12.62	35.86		
500YR	12.57	11.96	13.50	0.0006	6081.14	12.54	42.97	12.57	42.92		
*** Node Name:	N-G080	Group:	BL								
2YR	13.55	11.08	13.00	0.0004	35259.89	12.33	14.34	13.55	6.09		
10YR	12.86	11.56	13.00	0.0007	37176.02	12.33	25.30	12.92	16.23		
25YR	12.78	11.75	13.00	0.0007	37930.95	12.33	30.41	12.84	20.76		
50YR	12.73	11.94	13.00	0.0007	38662.73	12.33	35.53	12.80	25.11		
100YR	12.70	12.16	13.00	0.0007	39585.03	12.33	41.65	12.76	30.05		
500YR	12.69	12.42	13.00	0.0007	40735.80	12.33	49.23	12.75	35.79		
*** Node Name:	N-G090	Group:	BL								
2YR	12.90	13.00	15.00	0.0003	34969.24	12.33	14.38	12.89	5.56		
10YR	12.78	13.47	15.00	0.0005	37222.29	12.33	23.48	12.77	10.74		
25YR	12.75	13.66	15.00	0.0005	38139.70	12.33	27.60	12.75	13.16		
50YR	12.73	13.84	15.00	0.0006	39007.87	12.33	31.70	12.73	15.57		
100YR	12.72	14.05	15.00	0.0007	39997.31	12.33	36.60	12.71	18.43		
500YR	12.70	14.30	15.00	0.0007	41170.80	12.33	42.70	12.69	21.92		
*** Node Name:	N-G100	Group:	BL								
2YR	20.49	9.30	10.00	0.0007	166768.09	19.58	73.97	20.43	71.51		
10YR	18.47	10.75	10.00	0.0010	694236.41	16.63	213.36	18.02	181.07		
25YR	18.58	11.04	10.00	0.0010	851325.77	15.74	264.21	17.85	214.32		
50YR	18.77	11.28	10.00	0.0009	1061119.15	15.24	290.95	17.95	244.62		
100YR	18.99	11.53	10.00	0.0009	1327051.15	15.54	324.00	18.07	283.49		
500YR	19.05	11.84	10.00	0.0008	1554536.73	16.75	392.65	17.93	338.80		

***** Node Maximum Comparisons *****

(Time units - hours)											
Sim	Max Time	Max Stage	Warning	Max Delta	Max Surface	Max Time	Max Inflow	Max Time	Max Outflow		
Name	Conditions	(ft)	Stage (ft)	Stage (ft)	Area (sf)	Inflow	(cfs)	Outflow	(cfs)		

*** Node Name:	N-G110	Group: BL									
2YR	12.91	11.05	14.00	0.0050	15159.97	0.00	115.13	12.91	34.66		
10YR	12.65	11.51	14.00	0.0050	15989.35	0.00	115.13	12.65	69.25		
25YR	12.61	11.77	14.00	0.0050	16385.93	0.00	115.13	12.61	82.73		
50YR	12.67	12.12	14.00	0.0050	16732.62	0.00	115.13	12.67	92.79		
100YR	12.63	12.46	14.00	0.0050	17463.83	0.00	115.13	12.63	104.63		
500YR	12.59	12.76	14.00	0.0050	18107.43	12.33	120.78	12.59	114.99		
*** Node Name:	N-G120	Group: BL									
2YR	12.93	11.09	14.00	-0.0050	16457.29	12.81	30.83	0.00	115.13		
10YR	12.66	11.63	14.00	-0.0050	17763.70	12.53	59.78	0.00	115.13		
25YR	12.63	11.95	14.00	-0.0050	18314.33	12.52	69.85	0.00	115.13		
50YR	12.68	12.36	14.00	-0.0050	19163.14	12.51	80.94	0.00	115.13		
100YR	12.65	12.74	14.00	-0.0050	19578.11	12.39	91.50	0.00	115.13		
500YR	12.65	13.09	14.00	-0.0050	20282.24	12.42	95.56	0.00	115.13		
*** Node Name:	N-G130	Group: BL									
2YR	13.35	12.10	15.00	0.0005	21166.38	13.27	26.43	13.39	26.32		
10YR	13.51	12.70	15.00	0.0007	22425.05	13.06	46.30	13.24	46.13		
25YR	13.32	12.90	15.00	0.0007	22964.78	12.50	54.84	13.30	54.28		
50YR	13.36	13.12	15.00	0.0008	23432.81	12.50	63.17	13.33	62.12		
100YR	12.90	13.48	15.00	0.0009	24023.81	13.29	72.95	13.13	74.20		
500YR	13.17	14.23	15.00	0.0011	25953.28	13.52	82.67	14.59	88.21		
*** Node Name:	N-G140	Group: BL									
2YR	13.41	12.22	17.00	0.0005	14872.34	13.39	20.31	13.56	20.55		
10YR	13.57	13.07	17.00	0.0007	16492.27	13.36	36.33	13.67	36.03		
25YR	13.55	13.45	17.00	0.0008	16887.40	13.51	43.52	13.66	43.67		
50YR	13.60	13.85	17.00	0.0008	17638.74	13.52	50.59	13.71	50.54		
100YR	13.61	14.43	17.00	0.0009	19076.20	13.52	59.53	13.73	59.46		
500YR	13.69	15.55	17.00	0.0010	23450.24	13.54	69.62	13.92	69.94		
*** Node Name:	N-G150	Group: BL									
2YR	13.50	12.41	13.50	0.0004	5431.70	13.50	18.26	13.52	18.27		
10YR	13.56	13.31	13.50	0.0007	12271.85	13.50	33.11	13.55	32.75		
25YR	13.56	13.77	13.50	0.0007	13589.97	13.50	40.06	13.58	39.65		
50YR	13.60	14.39	13.50	0.0008	13545.90	13.50	47.07	13.60	46.18		
100YR	13.60	15.17	13.50	0.0008	13545.90	13.50	55.53	13.60	54.42		
500YR	13.67	16.58	13.50	0.0012	13545.90	13.50	66.13	13.64	63.85		
*** Node Name:	N-G160	Group: BL									
2YR	13.44	12.03	14.00	0.0003	22761.07	12.33	7.32	13.44	1.29		
10YR	13.16	12.62	14.00	0.0005	24802.55	12.33	11.94	13.16	2.89		
25YR	12.90	12.74	14.00	0.0005	25235.00	12.33	14.03	12.90	5.05		
50YR	12.75	12.84	14.00	0.0006	25594.00	12.33	16.11	12.75	7.37		
100YR	12.64	12.96	14.00	0.0007	25983.45	12.33	18.59	12.64	10.34		
500YR	12.55	13.08	14.00	0.0007	26420.46	12.33	21.69	12.55	14.19		
*** Node Name:	N-G170	Group: BL									
2YR	20.26	9.56	12.00	0.0008	13995.91	19.74	65.98	19.82	65.78		
10YR	17.58	11.08	12.00	0.0009	99602.98	16.63	195.13	16.79	191.00		
25YR	17.73	11.35	12.00	0.0009	128019.07	15.64	239.22	15.80	229.07		
50YR	17.95	11.58	12.00	0.0008	171591.69	15.04	258.01	16.12	247.21		
100YR	18.00	11.82	12.00	0.0008	228338.14	16.54	291.23	16.81	285.88		
500YR	17.90	12.08	12.00	0.0008	264753.85	16.82	355.59	16.96	350.83		
*** Node Name:	N-G180	Group: BL									
2YR	19.85	10.94	12.00	0.0004	1223897.98	15.00	123.34	19.74	65.98		
10YR	16.77	11.24	12.00	0.0006	1516273.25	15.00	242.10	16.63	195.13		
25YR	17.62	11.40	12.00	0.0006	1675273.17	15.00	299.56	15.64	239.22		
50YR	17.89	11.62	12.00	0.0006	1891000.42	15.00	358.29	15.04	258.01		
100YR	17.95	11.86	12.00	0.0006	2129663.60	14.75	430.24	16.54	291.23		
500YR	17.82	12.12	12.00	0.0006	2382427.63	14.75	521.83	16.82	355.59		

Church Creek Stormwater Master Plan

Technical Report (Volume 2)

December 2001

Woolpert LLP
Charlotte, North Carolina
Job No. 58375

CHURCH CREEK STORMWATER MASTER PLAN

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Church Creek Watershed
House Flooding
Existing Conditions
July 13, 2001

				WSEL						
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	7.31	8.62	9.08	9.56	9.96	10.42
				N-B120	7.44	8.73	9.16	9.62	10.02	10.48
				N-B160	7.76	8.87	9.27	9.72	10.11	10.56
				N-C060	8.46	9.98	10.39	10.76	11.21	11.69
				N-D030	7.91	8.99	9.39	9.82	10.22	10.67
				Depth of Flooding Inside the Houses (ft)						
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.96	-0.44	-0.03	0.34	0.79	1.27
21	Mowler	10.05	---	N-C060	-1.59	-0.07	0.34	0.71	1.16	1.64
22	Mowler	10.52	---	N-C060	-2.06	-0.54	-0.13	0.24	0.69	1.17
23	Mowler	10.02	---	N-C060	-1.56	-0.04	0.37	0.74	1.19	1.67
24	Mowler	10.34	---	N-C060	-1.88	-0.36	0.05	0.42	0.87	1.35
25	Mowler	10.51	---	N-C060	-2.05	-0.53	-0.12	0.25	0.70	1.18
26	Mowler	10.24	---	N-C060	-1.78	-0.26	0.15	0.52	0.97	1.45
27	Mowler	11.05	---	N-C060	-2.59	-1.07	-0.66	-0.29	0.16	0.64
28	Mowler	10.58	---	N-C060	-2.12	-0.60	-0.19	0.18	0.63	1.11
29	Mowler	11.26	---	N-C060	-2.80	-1.28	-0.87	-0.50	-0.05	0.43
54	Wolk	9.64	---	N-C060	-1.18	0.34	0.75	1.12	1.57	2.05
56	Wolk	10.80	---	N-C060	-2.34	-0.82	-0.41	-0.04	0.41	0.89
58	Wolk	10.95	---	N-C060	-2.49	-0.97	-0.56	-0.19	0.26	0.74
59	Wolk	12.18	11.36	N-C060	-3.72	-2.20	-1.79	-1.42	-0.97	-0.49
60	Wolk	11.79	---	N-C060	-3.33	-1.81	-1.40	-1.03	-0.58	-0.10
61	Wolk	10.92	9.70	N-C060	-2.46	-0.94	-0.53	-0.16	0.29	0.77
63	Wolk	10.07	---	N-C060	-1.61	-0.09	0.32	0.69	1.14	1.62
65	Wolk	10.33	---	N-C060	-1.87	-0.35	0.06	0.43	0.88	1.36
67	Wolk	10.59	---	N-C060	-2.13	-0.61	-0.20	0.17	0.62	1.10
69	Wolk	11.01	---	N-C060	-2.55	-1.03	-0.62	-0.25	0.20	0.68
19	Darcy	10.81	10.06	N-C060	-2.35	-0.83	-0.42	-0.05	0.40	0.88
21	Darcy	10.75	10.03	N-C060	-2.29	-0.77	-0.36	0.01	0.46	0.94
23	Darcy	10.82	9.96	N-C060	-2.36	-0.84	-0.43	-0.06	0.39	0.87
25	Darcy	10.57	9.86	N-C060	-2.11	-0.59	-0.18	0.19	0.64	1.12
27	Darcy	10.87	10.49	N-C060	-2.41	-0.89	-0.48	-0.11	0.34	0.82
2905	Winners	12.17	8.47	N-B080	-4.86	-3.55	-3.09	-2.61	-2.21	-1.75
2911	Winners	8.55	7.47	N-B080	-1.24	0.07	0.53	1.01	1.41	1.87
1927	Winners	11.92	8.16	N-B080	-4.61	-3.30	-2.84	-2.36	-1.96	-1.50
2940	Hialeah	11.41	8.15	N-B080	-4.10	-2.79	-2.33	-1.85	-1.45	-0.99
2952	Winners	11.98	9.31	N-B080	-4.67	-3.36	-2.90	-2.42	-2.02	-1.56
2962	Winners	12.36	8.97	N-B080	-5.05	-3.74	-3.28	-2.80	-2.40	-1.94
2957	Winners	12.11	9.15	N-B080	-3.65	-2.13	-1.72	-1.35	-0.90	-0.42
2972	Winners	12.05	9.34	N-B120	-4.61	-3.32	-2.89	-2.43	-2.03	-1.57
2979	Winners	11.86	9.38	N-B120	-4.42	-3.13	-2.70	-2.24	-1.84	-1.38
2982	Winners	12.37	9.46	N-B120	-4.93	-3.64	-3.21	-2.75	-2.35	-1.89
2998	Winners	12.35	9.37	N-B120	-4.91	-3.62	-3.19	-2.73	-2.33	-1.87
3010	Winners	12.17	9.08	N-B120	-4.73	-3.44	-3.01	-2.55	-2.15	-1.69
3011	Winners	12.97	9.03	N-B120	-5.53	-4.24	-3.81	-3.35	-2.95	-2.49
2999	Winners	13.32	9.74	N-B120	-5.88	-4.59	-4.16	-3.70	-3.30	-2.84
3024	Winners	13.04	9.89	N-B160	-5.28	-4.17	-3.77	-3.32	-2.93	-2.48
3032	Winners	12.14	10.11	N-B160	-4.38	-3.27	-2.87	-2.42	-2.03	-1.58
2834	Aqueduct	13.47	10.29	N-B160	-5.71	-4.60	-4.20	-3.75	-3.36	-2.91
2829	Aqueduct	14.36	11.14	N-B160	-6.60	-5.49	-5.09	-4.64	-4.25	-3.80
2838	Aqueduct	14.58	11.35	N-B160	-6.82	-5.71	-5.31	-4.86	-4.47	-4.02
45A	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.10	1.55
45B	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.10	1.55
45C	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.10	1.55
45D	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.10	1.55
49A	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.86	1.31
49B	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.86	1.31
49C	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.86	1.31
49D	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.86	1.31
49E	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.86	1.31
49F	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.86	1.31
55A	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.84	1.29
55B	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.84	1.29
55C	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.84	1.29
55D	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.84	1.29
55E	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.84	1.29
55F	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.84	1.29
58A	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.74	1.19
58B	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.74	1.19
58C	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.74	1.19
58D	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.74	1.19
58E	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.74	1.19
58F	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.74	1.19
52A	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.03	1.48
52B	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.03	1.48
52C	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.03	1.48
52D	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.03	1.48
52E	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.03	1.48
52F	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.03	1.48
46A	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.75	1.20
46B	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.75	1.20
46C	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.75	1.20
46D	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.75	1.20
Total					0	2	30	47	55	56
Houses					0	2	8	15	23	24
Townhouses					0	0	22	32	32	32

Church Creek Watershed
House Flooding
Alternative 1
July 13, 2001

				WSEL						
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	7.3	8.61	9.07	9.56	10.01	10.41
				N-B120	7.42	8.72	9.15	9.62	10.07	10.47
				N-B160	7.75	8.86	9.27	9.71	10.15	10.56
				N-C060	8.46	9.98	10.39	10.76	11.21	11.69
				N-D030	7.91	8.99	9.39	9.82	10.26	10.67
Depth of Flooding Inside the Houses (ft)										
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.96	-0.44	-0.03	0.34	0.79	1.27
21	Mowler	10.05	---	N-C060	-1.59	-0.07	0.34	0.71	1.16	1.64
22	Mowler	10.52	---	N-C060	-2.06	-0.54	-0.13	0.24	0.69	1.17
23	Mowler	10.02	---	N-C060	-1.56	-0.04	0.37	0.74	1.19	1.67
24	Mowler	10.34	---	N-C060	-1.88	-0.36	0.05	0.42	0.87	1.35
25	Mowler	10.51	---	N-C060	-2.05	-0.53	-0.12	0.25	0.70	1.18
26	Mowler	10.24	---	N-C060	-1.78	-0.26	0.15	0.52	0.97	1.45
27	Mowler	11.05	---	N-C060	-2.59	-1.07	-0.66	-0.29	0.16	0.64
28	Mowler	10.58	---	N-C060	-2.12	-0.60	-0.19	0.18	0.63	1.11
29	Mowler	11.26	---	N-C060	-2.80	-1.28	-0.87	-0.50	-0.05	0.43
54	Wolk	9.64	---	N-C060	-1.18	0.34	0.75	1.12	1.57	2.05
56	Wolk	10.80	---	N-C060	-2.34	-0.82	-0.41	-0.04	0.41	0.89
58	Wolk	10.95	---	N-C060	-2.49	-0.97	-0.56	-0.19	0.26	0.74
59	Wolk	12.18	11.36	N-C060	-3.72	-2.20	-1.79	-1.42	-0.97	-0.49
60	Wolk	11.79	---	N-C060	-3.33	-1.81	-1.40	-1.03	-0.58	-0.10
61	Wolk	10.92	9.70	N-C060	-2.46	-0.94	-0.53	-0.16	0.29	0.77
63	Wolk	10.07	---	N-C060	-1.61	-0.09	0.32	0.69	1.14	1.62
65	Wolk	10.33	---	N-C060	-1.87	-0.35	0.06	0.43	0.88	1.36
67	Wolk	10.59	---	N-C060	-2.13	-0.61	-0.20	0.17	0.62	1.10
69	Wolk	11.01	---	N-C060	-2.55	-1.03	-0.62	-0.25	0.20	0.68
19	Darcy	10.81	10.06	N-C060	-2.35	-0.83	-0.42	-0.05	0.40	0.88
21	Darcy	10.75	10.03	N-C060	-2.29	-0.77	-0.36	0.01	0.46	0.94
23	Darcy	10.82	9.96	N-C060	-2.36	-0.84	-0.43	-0.06	0.39	0.87
25	Darcy	10.57	9.86	N-C060	-2.11	-0.59	-0.18	0.19	0.64	1.12
27	Darcy	10.87	10.49	N-C060	-2.41	-0.89	-0.48	-0.11	0.34	0.82
2905	Winners	12.17	8.47	N-B080	-4.87	-3.56	-3.10	-2.61	-2.16	-1.76
2911	Winners	8.55	7.47	N-B080	-1.25	0.06	0.52	1.01	1.46	1.86
1927	Hialeah	11.92	8.16	N-B080	-4.62	-3.31	-2.85	-2.36	-1.91	-1.51
2940	Winners	11.41	8.15	N-B080	-4.11	-2.80	-2.34	-1.85	-1.40	-1.00
2952	Winners	11.98	9.31	N-B080	-4.68	-3.37	-2.91	-2.42	-1.97	-1.57
2962	Winners	12.36	8.97	N-B080	-5.06	-3.75	-3.29	-2.80	-2.35	-1.95
2957	Winners	12.11	9.15	N-B080	-4.81	-3.50	-3.04	-2.55	-2.10	-1.70
2972	Winners	12.05	9.34	N-B120	-4.63	-3.33	-2.90	-2.43	-1.98	-1.58
2979	Winners	11.86	9.38	N-B120	-4.44	-3.14	-2.71	-2.24	-1.79	-1.39
2982	Winners	12.37	9.46	N-B120	-4.95	-3.65	-3.22	-2.75	-2.30	-1.90
2998	Winners	12.35	9.37	N-B120	-4.93	-3.63	-3.20	-2.73	-2.28	-1.88
3010	Winners	12.17	9.08	N-B120	-4.75	-3.45	-3.02	-2.55	-2.10	-1.70
3011	Winners	12.97	9.03	N-B120	-5.55	-4.25	-3.82	-3.35	-2.90	-2.50
2999	Winners	13.32	9.74	N-B120	-5.90	-4.60	-4.17	-3.70	-3.25	-2.85
3024	Winners	13.04	9.89	N-B160	-5.29	-4.18	-3.77	-3.33	-2.89	-2.48
3032	Winners	12.14	10.11	N-B160	-4.39	-3.28	-2.87	-2.43	-1.99	-1.58
2834	Aqueduct	13.47	10.29	N-B160	-5.72	-4.61	-4.20	-3.76	-3.32	-2.91
2829	Aqueduct	14.36	11.14	N-B160	-6.61	-5.50	-5.09	-4.65	-4.21	-3.80
2838	Aqueduct	14.58	11.35	N-B160	-6.83	-5.72	-5.31	-4.87	-4.43	-4.02
45A	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.14	1.55
45B	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.14	1.55
45C	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.14	1.55
45D	Two Lock	9.12	8.87	N-D030	-1.21	-0.13	0.27	0.70	1.14	1.55
49A	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.90	1.31
49B	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.90	1.31
49C	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.90	1.31
49D	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.90	1.31
49E	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.90	1.31
49F	Two Lock	9.36	9.02	N-D030	-1.45	-0.37	0.03	0.46	0.90	1.31
55A	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.88	1.29
55B	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.88	1.29
55C	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.88	1.29
55D	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.88	1.29
55E	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.88	1.29
55F	Two Lock	9.38	9.07	N-D030	-1.47	-0.39	0.01	0.44	0.88	1.29
58A	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.78	1.19
58B	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.78	1.19
58C	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.78	1.19
58D	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.78	1.19
58E	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.78	1.19
58F	Two Lock	9.48	9.10	N-D030	-1.57	-0.49	-0.09	0.34	0.78	1.19
52A	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.07	1.48
52B	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.07	1.48
52C	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.07	1.48
52D	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.07	1.48
52E	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.07	1.48
52F	Two Lock	9.19	8.90	N-D030	-1.28	-0.20	0.20	0.63	1.07	1.48
46A	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.79	1.20
46B	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.79	1.20
46C	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.79	1.20
46D	Two Lock	9.47	9.19	N-D030	-1.56	-0.48	-0.08	0.35	0.79	1.20
Total					0	2	30	47	55	56
Houses					0	2	8	15	23	24
Townhouses					0	0	22	32	32	32

Church Creek Watershed
House Flooding
Alternative 2
July 13, 2001

WSEL										
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	7.33	8.6	9.04	9.52	9.92	10.4
				N-B120	7.45	8.7	9.13	9.59	9.98	10.46
				N-B160	7.77	8.84	9.24	9.68	10.08	10.54
				N-C060	8.49	9.87	10.26	10.63	11.05	11.54
				N-D030	7.93	8.96	9.35	9.78	10.2	10.65
Depth of Flooding Inside the Houses (ft)										
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.93	-0.55	-0.16	0.21	0.63	1.12
21	Mowler	10.05	---	N-C060	-1.56	-0.18	0.21	0.58	1.00	1.49
22	Mowler	10.52	---	N-C060	-2.03	-0.65	-0.26	0.11	0.53	1.02
23	Mowler	10.02	---	N-C060	-1.53	-0.15	0.24	0.61	1.03	1.52
24	Mowler	10.34	---	N-C060	-1.85	-0.47	-0.08	0.29	0.71	1.20
25	Mowler	10.51	---	N-C060	-2.02	-0.64	-0.25	0.12	0.54	1.03
26	Mowler	10.24	---	N-C060	-1.75	-0.37	0.02	0.39	0.81	1.30
27	Mowler	11.05	---	N-C060	-2.56	-1.18	-0.79	-0.42	0.00	0.49
28	Mowler	10.58	---	N-C060	-2.09	-0.71	-0.32	0.05	0.47	0.96
29	Mowler	11.26	---	N-C060	-2.77	-1.39	-1.00	-0.63	-0.21	0.28
54	Wolk	9.64	---	N-C060	-1.15	0.23	0.62	0.99	1.41	1.90
56	Wolk	10.80	---	N-C060	-2.31	-0.93	-0.54	-0.17	0.25	0.74
58	Wolk	10.95	---	N-C060	-2.46	-1.08	-0.69	-0.32	0.10	0.59
59	Wolk	12.18	11.36	N-C060	-3.69	-2.31	-1.92	-1.55	-1.13	-0.64
60	Wolk	11.79	---	N-C060	-3.30	-1.92	-1.53	-1.16	-0.74	-0.25
61	Wolk	10.92	9.70	N-C060	-2.43	-1.05	-0.66	-0.29	0.13	0.62
63	Wolk	10.07	---	N-C060	-1.58	-0.20	0.19	0.56	0.98	1.47
65	Wolk	10.33	---	N-C060	-1.84	-0.46	-0.07	0.30	0.72	1.21
67	Wolk	10.59	---	N-C060	-2.10	-0.72	-0.33	0.04	0.46	0.95
69	Wolk	11.01	---	N-C060	-2.52	-1.14	-0.75	-0.38	0.04	0.53
19	Darcy	10.81	10.06	N-C060	-2.32	-0.94	-0.55	-0.18	0.24	0.73
21	Darcy	10.75	10.03	N-C060	-2.26	-0.88	-0.49	-0.12	0.30	0.79
23	Darcy	10.82	9.96	N-C060	-2.33	-0.95	-0.56	-0.19	0.23	0.72
25	Darcy	10.57	9.86	N-C060	-2.08	-0.70	-0.31	0.06	0.48	0.97
27	Darcy	10.87	10.49	N-C060	-2.38	-1.00	-0.61	-0.24	0.18	0.67
2905	Winners	12.17	8.47	N-B080	-4.84	-3.57	-3.13	-2.65	-2.25	-1.77
2911	Winners	8.55	7.47	N-B080	-1.22	0.05	0.49	0.97	1.37	1.85
1927	Hialeah	11.92	8.16	N-B080	-4.59	-3.32	-2.88	-2.40	-2.00	-1.52
2940	Winners	11.41	8.15	N-B080	-4.08	-2.81	-2.37	-1.89	-1.49	-1.01
2952	Winners	11.98	9.31	N-B080	-4.65	-3.38	-2.94	-2.46	-2.06	-1.58
2962	Winners	12.36	8.97	N-B080	-5.03	-3.76	-3.32	-2.84	-2.44	-1.96
2957	Winners	12.11	9.15	N-B080	-4.78	-3.51	-3.07	-2.59	-2.19	-1.71
2972	Winners	12.05	9.34	N-B120	-4.60	-3.35	-2.92	-2.46	-2.07	-1.59
2979	Winners	11.86	9.38	N-B120	-4.41	-3.16	-2.73	-2.27	-1.88	-1.40
2982	Winners	12.37	9.46	N-B120	-4.92	-3.67	-3.24	-2.78	-2.39	-1.91
2998	Winners	12.35	9.37	N-B120	-4.90	-3.65	-3.22	-2.76	-2.37	-1.89
3010	Winners	12.17	9.08	N-B120	-4.72	-3.47	-3.04	-2.58	-2.19	-1.71
3011	Winners	12.97	9.03	N-B120	-5.52	-4.27	-3.84	-3.38	-2.99	-2.51
2999	Winners	13.32	9.74	N-B120	-5.87	-4.62	-4.19	-3.73	-3.34	-2.86
3024	Winners	13.04	9.89	N-B160	-5.27	-4.20	-3.80	-3.36	-2.96	-2.50
3032	Winners	12.14	10.11	N-B160	-4.37	-3.30	-2.90	-2.46	-2.06	-1.60
2834	Aqueduct	13.47	10.29	N-B160	-5.70	-4.63	-4.23	-3.79	-3.39	-2.93
2829	Aqueduct	14.36	11.14	N-B160	-6.59	-5.52	-5.12	-4.68	-4.28	-3.82
2838	Aqueduct	14.58	11.35	N-B160	-6.81	-5.74	-5.34	-4.90	-4.50	-4.04
45A	Two Lock	9.12	8.87	N-D030	-1.19	-0.16	0.23	0.66	1.08	1.53
45B	Two Lock	9.12	8.87	N-D030	-1.19	-0.16	0.23	0.66	1.08	1.53
45C	Two Lock	9.12	8.87	N-D030	-1.19	-0.16	0.23	0.66	1.08	1.53
45D	Two Lock	9.12	8.87	N-D030	-1.19	-0.16	0.23	0.66	1.08	1.53
49A	Two Lock	9.36	9.02	N-D030	-1.43	-0.40	-0.01	0.42	0.84	1.29
49B	Two Lock	9.36	9.02	N-D030	-1.43	-0.40	-0.01	0.42	0.84	1.29
49C	Two Lock	9.36	9.02	N-D030	-1.43	-0.40	-0.01	0.42	0.84	1.29
49D	Two Lock	9.36	9.02	N-D030	-1.43	-0.40	-0.01	0.42	0.84	1.29
49E	Two Lock	9.36	9.02	N-D030	-1.43	-0.40	-0.01	0.42	0.84	1.29
49F	Two Lock	9.36	9.02	N-D030	-1.43	-0.40	-0.01	0.42	0.84	1.29
55A	Two Lock	9.38	9.07	N-D030	-1.45	-0.42	-0.03	0.40	0.82	1.27
55B	Two Lock	9.38	9.07	N-D030	-1.45	-0.42	-0.03	0.40	0.82	1.27
55C	Two Lock	9.38	9.07	N-D030	-1.45	-0.42	-0.03	0.40	0.82	1.27
55D	Two Lock	9.38	9.07	N-D030	-1.45	-0.42	-0.03	0.40	0.82	1.27
55E	Two Lock	9.38	9.07	N-D030	-1.45	-0.42	-0.03	0.40	0.82	1.27
55F	Two Lock	9.38	9.07	N-D030	-1.45	-0.42	-0.03	0.40	0.82	1.27
58A	Two Lock	9.48	9.10	N-D030	-1.55	-0.52	-0.13	0.30	0.72	1.17
58B	Two Lock	9.48	9.10	N-D030	-1.55	-0.52	-0.13	0.30	0.72	1.17
58C	Two Lock	9.48	9.10	N-D030	-1.55	-0.52	-0.13	0.30	0.72	1.17
58D	Two Lock	9.48	9.10	N-D030	-1.55	-0.52	-0.13	0.30	0.72	1.17
58E	Two Lock	9.48	9.10	N-D030	-1.55	-0.52	-0.13	0.30	0.72	1.17
58F	Two Lock	9.48	9.10	N-D030	-1.55	-0.52	-0.13	0.30	0.72	1.17
52A	Two Lock	9.19	8.90	N-D030	-1.26	-0.23	0.16	0.59	1.01	1.46
52B	Two Lock	9.19	8.90	N-D030	-1.26	-0.23	0.16	0.59	1.01	1.46
52C	Two Lock	9.19	8.90	N-D030	-1.26	-0.23	0.16	0.59	1.01	1.46
52D	Two Lock	9.19	8.90	N-D030	-1.26	-0.23	0.16	0.59	1.01	1.46
52E	Two Lock	9.19	8.90	N-D030	-1.26	-0.23	0.16	0.59	1.01	1.46
52F	Two Lock	9.19	8.90	N-D030	-1.26	-0.23	0.16	0.59	1.01	1.46
46A	Two Lock	9.47	9.19	N-D030	-1.54	-0.51	-0.12	0.31	0.73	1.18
46B	Two Lock	9.47	9.19	N-D030	-1.54	-0.51	-0.12	0.31	0.73	1.18
46C	Two Lock	9.47	9.19	N-D030	-1.54	-0.51	-0.12	0.31	0.73	1.18
46D	Two Lock	9.47	9.19	N-D030	-1.54	-0.51	-0.12	0.31	0.73	1.18
Total					0	2	16	46	55	56
Houses					0	2	6	14	23	24
Townhouses					0	0	10	32	32	32

Church Creek Watershed

House Flooding

Alternative 2b

July 13, 2001

WSEL

Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
N-B080	7.21	8.49	8.94	9.43	9.85	10.37
N-B120	7.32	8.6	9.03	9.5	9.91	10.43
N-B160	7.63	8.74	9.15	9.59	10.01	10.5
N-C060	7.7	9.6	10.02	10.4	10.83	11.34
N-D030	7.78	8.86	9.25	9.69	10.13	10.6

Depth of Flooding Inside the Houses (ft)

Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-2.72	-0.82	-0.40	-0.02	0.41	0.92
21	Mowler	10.05	---	N-C060	-2.35	-0.45	-0.03	0.35	0.78	1.29
22	Mowler	10.52	---	N-C060	-2.82	-0.92	-0.50	-0.12	0.31	0.82
23	Mowler	10.02	---	N-C060	-2.32	-0.42	0.00	0.38	0.81	1.32
24	Mowler	10.34	---	N-C060	-2.64	-0.74	-0.32	0.06	0.49	1.00
25	Mowler	10.51	---	N-C060	-2.81	-0.91	-0.49	-0.11	0.32	0.83
26	Mowler	10.24	---	N-C060	-2.54	-0.64	-0.22	0.16	0.59	1.10
27	Mowler	11.05	---	N-C060	-3.35	-1.45	-1.03	-0.65	-0.22	0.29
28	Mowler	10.58	---	N-C060	-2.88	-0.98	-0.56	-0.18	0.25	0.76
29	Mowler	11.26	---	N-C060	-3.56	-1.66	-1.24	-0.86	-0.43	0.08
54	Wolk	9.64	---	N-C060	-1.94	-0.04	0.38	0.76	1.19	1.70
56	Wolk	10.80	---	N-C060	-3.10	-1.20	-0.78	-0.40	0.03	0.54
58	Wolk	10.95	---	N-C060	-3.25	-1.35	-0.93	-0.55	-0.12	0.39
59	Wolk	12.18	11.36	N-C060	-4.48	-2.58	-2.16	-1.78	-1.35	-0.84
60	Wolk	11.79	---	N-C060	-4.09	-2.19	-1.77	-1.39	-0.96	-0.45
61	Wolk	10.92	9.70	N-C060	-3.22	-1.32	-0.90	-0.52	-0.09	0.42
63	Wolk	10.07	---	N-C060	-2.37	-0.47	-0.05	0.33	0.76	1.27
65	Wolk	10.33	---	N-C060	-2.63	-0.73	-0.31	0.07	0.50	1.01
67	Wolk	10.59	---	N-C060	-2.89	-0.99	-0.57	-0.19	0.24	0.75
69	Wolk	11.01	---	N-C060	-3.31	-1.41	-0.99	-0.61	-0.18	0.33
19	Darcy	10.81	10.06	N-C060	-3.11	-1.21	-0.79	-0.41	0.02	0.53
21	Darcy	10.75	10.03	N-C060	-3.05	-1.15	-0.73	-0.35	0.08	0.59
23	Darcy	10.82	9.96	N-C060	-3.12	-1.22	-0.80	-0.42	0.01	0.52
25	Darcy	10.57	9.86	N-C060	-2.87	-0.97	-0.55	-0.17	0.26	0.77
27	Darcy	10.87	10.49	N-C060	-3.17	-1.27	-0.85	-0.47	-0.04	0.47
2905	Winners	12.17	8.47	N-B080	-4.96	-3.68	-3.23	-2.74	-2.32	-1.80
2911	Winners	8.55	7.47	N-B080	-1.34	-0.06	0.39	0.88	1.30	1.82
1927	Hialeah	11.92	8.16	N-B080	-4.71	-3.43	-2.98	-2.49	-2.07	-1.55
2940	Winners	11.41	8.15	N-B080	-4.20	-2.92	-2.47	-1.98	-1.56	-1.04
2952	Winners	11.98	9.31	N-B080	-4.77	-3.49	-3.04	-2.55	-2.13	-1.61
2962	Winners	12.36	8.97	N-B080	-5.15	-3.87	-3.42	-2.93	-2.51	-1.99
2957	Winners	12.11	9.15	N-B080	-4.90	-3.62	-3.17	-2.68	-2.26	-1.74
2972	Winners	12.05	9.34	N-B120	-4.73	-3.45	-3.02	-2.55	-2.14	-1.62
2979	Winners	11.86	9.38	N-B120	-4.54	-3.26	-2.83	-2.36	-1.95	-1.43
2982	Winners	12.37	9.46	N-B120	-5.05	-3.77	-3.34	-2.87	-2.46	-1.94
2998	Winners	12.35	9.37	N-B120	-5.03	-3.75	-3.32	-2.85	-2.44	-1.92
3010	Winners	12.17	9.08	N-B120	-4.85	-3.57	-3.14	-2.67	-2.26	-1.74
3011	Winners	12.97	9.03	N-B120	-5.65	-4.37	-3.94	-3.47	-3.06	-2.54
2999	Winners	13.32	9.74	N-B120	-6.00	-4.72	-4.29	-3.82	-3.41	-2.89
3024	Winners	13.04	9.89	N-B160	-5.41	-4.30	-3.89	-3.45	-3.03	-2.54
3032	Winners	12.14	10.11	N-B160	-4.51	-3.40	-2.99	-2.55	-2.13	-1.64
2834	Aqueduct	13.47	10.29	N-B160	-5.84	-4.73	-4.32	-3.88	-3.46	-2.97
2829	Aqueduct	14.36	11.14	N-B160	-6.73	-5.62	-5.21	-4.77	-4.35	-3.86
2838	Aqueduct	14.58	11.35	N-B160	-6.95	-5.84	-5.43	-4.99	-4.57	-4.08
45A	Two Lock	9.12	8.87	N-D030	-1.34	-0.26	0.13	0.57	1.01	1.48
45B	Two Lock	9.12	8.87	N-D030	-1.34	-0.26	0.13	0.57	1.01	1.48
45C	Two Lock	9.12	8.87	N-D030	-1.34	-0.26	0.13	0.57	1.01	1.48
45D	Two Lock	9.12	8.87	N-D030	-1.34	-0.26	0.13	0.57	1.01	1.48
49A	Two Lock	9.36	9.02	N-D030	-1.58	-0.50	-0.11	0.33	0.77	1.24
49B	Two Lock	9.36	9.02	N-D030	-1.58	-0.50	-0.11	0.33	0.77	1.24
49C	Two Lock	9.36	9.02	N-D030	-1.58	-0.50	-0.11	0.33	0.77	1.24
49D	Two Lock	9.36	9.02	N-D030	-1.58	-0.50	-0.11	0.33	0.77	1.24
49E	Two Lock	9.36	9.02	N-D030	-1.58	-0.50	-0.11	0.33	0.77	1.24
49F	Two Lock	9.36	9.02	N-D030	-1.58	-0.50	-0.11	0.33	0.77	1.24
55A	Two Lock	9.38	9.07	N-D030	-1.60	-0.52	-0.13	0.31	0.75	1.22
55B	Two Lock	9.38	9.07	N-D030	-1.60	-0.52	-0.13	0.31	0.75	1.22
55C	Two Lock	9.38	9.07	N-D030	-1.60	-0.52	-0.13	0.31	0.75	1.22
55D	Two Lock	9.38	9.07	N-D030	-1.60	-0.52	-0.13	0.31	0.75	1.22
55E	Two Lock	9.38	9.07	N-D030	-1.60	-0.52	-0.13	0.31	0.75	1.22
55F	Two Lock	9.38	9.07	N-D030	-1.60	-0.52	-0.13	0.31	0.75	1.22
58A	Two Lock	9.48	9.10	N-D030	-1.70	-0.62	-0.23	0.21	0.65	1.12
58B	Two Lock	9.48	9.10	N-D030	-1.70	-0.62	-0.23	0.21	0.65	1.12
58C	Two Lock	9.48	9.10	N-D030	-1.70	-0.62	-0.23	0.21	0.65	1.12
58D	Two Lock	9.48	9.10	N-D030	-1.70	-0.62	-0.23	0.21	0.65	1.12
58E	Two Lock	9.48	9.10	N-D030	-1.70	-0.62	-0.23	0.21	0.65	1.12
58F	Two Lock	9.48	9.10	N-D030	-1.70	-0.62	-0.23	0.21	0.65	1.12
52A	Two Lock	9.19	8.90	N-D030	-1.41	-0.33	0.06	0.50	0.94	1.41
52B	Two Lock	9.19	8.90	N-D030	-1.41	-0.33	0.06	0.50	0.94	1.41
52C	Two Lock	9.19	8.90	N-D030	-1.41	-0.33	0.06	0.50	0.94	1.41
52D	Two Lock	9.19	8.90	N-D030	-1.41	-0.33	0.06	0.50	0.94	1.41
52E	Two Lock	9.19	8.90	N-D030	-1.41	-0.33	0.06	0.50	0.94	1.41
52F	Two Lock	9.19	8.90	N-D030	-1.41	-0.33	0.06	0.50	0.94	1.41
46A	Two Lock	9.47	9.19	N-D030	-1.69	-0.61	-0.22	0.22	0.66	1.13
46B	Two Lock	9.47	9.19	N-D030	-1.69	-0.61	-0.22	0.22	0.66	1.13
46C	Two Lock	9.47	9.19	N-D030	-1.69	-0.61	-0.22	0.22	0.66	1.13
46D	Two Lock	9.47	9.19	N-D030	-1.69	-0.61	-0.22	0.22	0.66	1.13

Total	0	0	13	40	50	56
Houses	0	0	3	8	18	24
Townhouses	0	0	10	32	32	32

Church Creek Watershed

House Flooding

Alternative 2c

July 13, 2001

				WSEL						
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	7.14	8.39	8.8	9.26	9.69	10.23
				N-B120	7.24	8.5	8.89	9.33	9.76	10.28
				N-B160	7.53	8.64	9.02	9.43	9.85	10.35
				N-C060	7.78	9.07	9.49	9.83	10.23	10.77
				N-D030	7.66	8.75	9.11	9.51	9.96	10.44
				Depth of Flooding Inside the Houses (ft)						
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-2.64	-1.35	-0.93	-0.59	-0.19	0.35
21	Mowler	10.05	---	N-C060	-2.27	-0.98	-0.56	-0.22	0.18	0.72
22	Mowler	10.52	---	N-C060	-2.74	-1.45	-1.03	-0.69	-0.29	0.25
23	Mowler	10.02	---	N-C060	-2.24	-0.95	-0.53	-0.19	0.21	0.75
24	Mowler	10.34	---	N-C060	-2.56	-1.27	-0.85	-0.51	-0.11	0.43
25	Mowler	10.51	---	N-C060	-2.73	-1.44	-1.02	-0.68	-0.28	0.26
26	Mowler	10.24	---	N-C060	-2.46	-1.17	-0.75	-0.41	-0.01	0.53
27	Mowler	11.05	---	N-C060	-3.27	-1.98	-1.56	-1.22	-0.82	-0.28
28	Mowler	10.58	---	N-C060	-2.80	-1.51	-1.09	-0.75	-0.35	0.19
29	Mowler	11.26	---	N-C060	-3.48	-2.19	-1.77	-1.43	-1.03	-0.49
54	Wolk	9.64	---	N-C060	-1.86	-0.57	-0.15	0.19	0.59	1.13
56	Wolk	10.80	---	N-C060	-3.02	-1.73	-1.31	-0.97	-0.57	-0.03
58	Wolk	10.95	---	N-C060	-3.17	-1.88	-1.46	-1.12	-0.72	-0.18
59	Wolk	12.18	11.36	N-C060	-4.40	-3.11	-2.69	-2.35	-1.95	-1.41
60	Wolk	11.79	---	N-C060	-4.01	-2.72	-2.30	-1.96	-1.56	-1.02
61	Wolk	10.92	9.70	N-C060	-3.14	-1.85	-1.43	-1.09	-0.69	-0.15
63	Wolk	10.07	---	N-C060	-2.29	-1.00	-0.58	-0.24	0.16	0.70
65	Wolk	10.33	---	N-C060	-2.55	-1.26	-0.84	-0.50	-0.10	0.44
67	Wolk	10.59	---	N-C060	-2.81	-1.52	-1.10	-0.76	-0.36	0.18
69	Wolk	11.01	---	N-C060	-3.23	-1.94	-1.52	-1.18	-0.78	-0.24
19	Darcy	10.81	10.06	N-C060	-3.03	-1.74	-1.32	-0.98	-0.58	-0.04
21	Darcy	10.75	10.03	N-C060	-2.97	-1.68	-1.26	-0.92	-0.52	0.02
23	Darcy	10.82	9.96	N-C060	-3.04	-1.75	-1.33	-0.99	-0.59	-0.05
25	Darcy	10.57	9.86	N-C060	-2.79	-1.50	-1.08	-0.74	-0.34	0.20
27	Darcy	10.87	10.49	N-C060	-3.09	-1.80	-1.38	-1.04	-0.64	-0.10
2905	Winners	12.17	8.47	N-B080	-5.03	-3.78	-3.37	-2.91	-2.48	-1.94
2911	Winners	8.55	7.47	N-B080	-1.41	-0.16	0.25	0.71	1.14	1.68
1927	Hialeah	11.92	8.16	N-B080	-4.78	-3.53	-3.12	-2.66	-2.23	-1.69
2940	Winners	11.41	8.15	N-B080	-4.27	-3.02	-2.61	-2.15	-1.72	-1.18
2952	Winners	11.98	9.31	N-B080	-4.84	-3.59	-3.18	-2.72	-2.29	-1.75
2962	Winners	12.36	8.97	N-B080	-5.22	-3.97	-3.56	-3.10	-2.67	-2.13
2957	Winners	12.11	9.15	N-B080	-4.97	-3.72	-3.31	-2.85	-2.42	-1.88
2972	Winners	12.05	9.34	N-B120	-4.81	-3.55	-3.16	-2.72	-2.29	-1.77
2979	Winners	11.86	9.38	N-B120	-4.62	-3.36	-2.97	-2.53	-2.10	-1.58
2982	Winners	12.37	9.46	N-B120	-5.13	-3.87	-3.48	-3.04	-2.61	-2.09
2998	Winners	12.35	9.37	N-B120	-5.11	-3.85	-3.46	-3.02	-2.59	-2.07
3010	Winners	12.17	9.08	N-B120	-4.93	-3.67	-3.28	-2.84	-2.41	-1.89
3011	Winners	12.97	9.03	N-B120	-5.73	-4.47	-4.08	-3.64	-3.21	-2.69
2999	Winners	13.32	9.74	N-B120	-6.08	-4.82	-4.43	-3.99	-3.56	-3.04
3024	Winners	13.04	9.89	N-B160	-5.51	-4.40	-4.02	-3.61	-3.19	-2.69
3032	Winners	12.14	10.11	N-B160	-4.61	-3.50	-3.12	-2.71	-2.29	-1.79
2834	Aqueduct	13.47	10.29	N-B160	-5.94	-4.83	-4.45	-4.04	-3.62	-3.12
2829	Aqueduct	14.36	11.14	N-B160	-6.83	-5.72	-5.34	-4.93	-4.51	-4.01
2838	Aqueduct	14.58	11.35	N-B160	-7.05	-5.94	-5.56	-5.15	-4.73	-4.23
45A	Two Lock	9.12	8.87	N-D030	-1.46	-0.37	-0.01	0.39	0.84	1.32
45B	Two Lock	9.12	8.87	N-D030	-1.46	-0.37	-0.01	0.39	0.84	1.32
45C	Two Lock	9.12	8.87	N-D030	-1.46	-0.37	-0.01	0.39	0.84	1.32
45D	Two Lock	9.12	8.87	N-D030	-1.46	-0.37	-0.01	0.39	0.84	1.32
49A	Two Lock	9.36	9.02	N-D030	-1.70	-0.61	-0.25	0.15	0.60	1.08
49B	Two Lock	9.36	9.02	N-D030	-1.70	-0.61	-0.25	0.15	0.60	1.08
49C	Two Lock	9.36	9.02	N-D030	-1.70	-0.61	-0.25	0.15	0.60	1.08
49D	Two Lock	9.36	9.02	N-D030	-1.70	-0.61	-0.25	0.15	0.60	1.08
49E	Two Lock	9.36	9.02	N-D030	-1.70	-0.61	-0.25	0.15	0.60	1.08
49F	Two Lock	9.36	9.02	N-D030	-1.70	-0.61	-0.25	0.15	0.60	1.08
55A	Two Lock	9.38	9.07	N-D030	-1.72	-0.63	-0.27	0.13	0.58	1.06
55B	Two Lock	9.38	9.07	N-D030	-1.72	-0.63	-0.27	0.13	0.58	1.06
55C	Two Lock	9.38	9.07	N-D030	-1.72	-0.63	-0.27	0.13	0.58	1.06
55D	Two Lock	9.38	9.07	N-D030	-1.72	-0.63	-0.27	0.13	0.58	1.06
55E	Two Lock	9.38	9.07	N-D030	-1.72	-0.63	-0.27	0.13	0.58	1.06
55F	Two Lock	9.38	9.07	N-D030	-1.72	-0.63	-0.27	0.13	0.58	1.06
58A	Two Lock	9.48	9.10	N-D030	-1.82	-0.73	-0.37	0.03	0.48	0.96
58B	Two Lock	9.48	9.10	N-D030	-1.82	-0.73	-0.37	0.03	0.48	0.96
58C	Two Lock	9.48	9.10	N-D030	-1.82	-0.73	-0.37	0.03	0.48	0.96
58D	Two Lock	9.48	9.10	N-D030	-1.82	-0.73	-0.37	0.03	0.48	0.96
58E	Two Lock	9.48	9.10	N-D030	-1.82	-0.73	-0.37	0.03	0.48	0.96
58F	Two Lock	9.48	9.10	N-D030	-1.82	-0.73	-0.37	0.03	0.48	0.96
52A	Two Lock	9.19	8.90	N-D030	-1.53	-0.44	-0.08	0.32	0.77	1.25
52B	Two Lock	9.19	8.90	N-D030	-1.53	-0.44	-0.08	0.32	0.77	1.25
52C	Two Lock	9.19	8.90	N-D030	-1.53	-0.44	-0.08	0.32	0.77	1.25
52D	Two Lock	9.19	8.90	N-D030	-1.53	-0.44	-0.08	0.32	0.77	1.25
52E	Two Lock	9.19	8.90	N-D030	-1.53	-0.44	-0.08	0.32	0.77	1.25
52F	Two Lock	9.19	8.90	N-D030	-1.53	-0.44	-0.08	0.32	0.77	1.25
46A	Two Lock	9.47	9.19	N-D030	-1.81	-0.72	-0.36	0.04	0.49	0.97
46B	Two Lock	9.47	9.19	N-D030	-1.81	-0.72	-0.36	0.04	0.49	0.97
46C	Two Lock	9.47	9.19	N-D030	-1.81	-0.72	-0.36	0.04	0.49	0.97
46D	Two Lock	9.47	9.19	N-D030	-1.81	-0.72	-0.36	0.04	0.49	0.97
Total					0	0	1	34	37	47
Houses					0	0	1	2	5	15
Townhouses					0	0	0	32	32	32

Church Creek Watershed

House Flooding

Alternative 3

July 13, 2001

WSEL

Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
N-B080	6.94	8.3	8.74	9.21	9.66	10.17
N-B120	7.02	8.42	8.84	9.29	9.79	10.22
N-B160	7.22	8.57	8.97	9.39	9.82	10.29
N-C060	7.29	8.64	9.04	9.45	9.89	10.36
N-D030	7.33	8.68	9.06	9.48	9.92	10.39

Depth of Flooding Inside the Houses (ft)

Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-3.13	-1.78	-1.38	-0.97	-0.53	-0.06
21	Mowler	10.05	---	N-C060	-2.76	-1.41	-1.01	-0.60	-0.16	0.31
22	Mowler	10.52	---	N-C060	-3.23	-1.88	-1.48	-1.07	-0.63	-0.16
23	Mowler	10.02	---	N-C060	-2.73	-1.38	-0.98	-0.57	-0.13	0.34
24	Mowler	10.34	---	N-C060	-3.05	-1.70	-1.30	-0.89	-0.45	0.02
25	Mowler	10.51	---	N-C060	-3.22	-1.87	-1.47	-1.06	-0.62	-0.15
26	Mowler	10.24	---	N-C060	-2.95	-1.60	-1.20	-0.79	-0.35	0.12
27	Mowler	11.05	---	N-C060	-3.76	-2.41	-2.01	-1.60	-1.16	-0.69
28	Mowler	10.58	---	N-C060	-3.29	-1.94	-1.54	-1.13	-0.69	-0.22
29	Mowler	11.26	---	N-C060	-3.97	-2.62	-2.22	-1.81	-1.37	-0.90
54	Wolk	9.64	---	N-C060	-2.35	-1.00	-0.60	-0.19	0.25	0.72
56	Wolk	10.80	---	N-C060	-3.51	-2.16	-1.76	-1.35	-0.91	-0.44
58	Wolk	10.95	---	N-C060	-3.66	-2.31	-1.91	-1.50	-1.06	-0.59
59	Wolk	12.18	11.36	N-C060	-4.89	-3.54	-3.14	-2.73	-2.29	-1.82
60	Wolk	11.79	---	N-C060	-4.50	-3.15	-2.75	-2.34	-1.90	-1.43
61	Wolk	10.92	9.70	N-C060	-3.63	-2.28	-1.88	-1.47	-1.03	-0.56
63	Wolk	10.07	---	N-C060	-2.78	-1.43	-1.03	-0.62	-0.18	0.29
65	Wolk	10.33	---	N-C060	-3.04	-1.69	-1.29	-0.88	-0.44	0.03
67	Wolk	10.59	---	N-C060	-3.30	-1.95	-1.55	-1.14	-0.70	-0.23
69	Wolk	11.01	---	N-C060	-3.72	-2.37	-1.97	-1.56	-1.12	-0.65
19	Darcy	10.81	10.06	N-C060	-3.52	-2.17	-1.77	-1.36	-0.92	-0.45
21	Darcy	10.75	10.03	N-C060	-3.46	-2.11	-1.71	-1.30	-0.86	-0.39
23	Darcy	10.82	9.96	N-C060	-3.53	-2.18	-1.78	-1.37	-0.93	-0.46
25	Darcy	10.57	9.86	N-C060	-3.28	-1.93	-1.53	-1.12	-0.68	-0.21
27	Darcy	10.87	10.49	N-C060	-3.58	-2.23	-1.83	-1.42	-0.98	-0.51
2905	Winners	12.17	8.47	N-B080	-5.23	-3.87	-3.43	-2.96	-2.51	-2.00
2911	Winners	8.55	7.47	N-B080	-1.61	-0.25	0.19	0.66	1.11	1.62
1927	Hialeah	11.92	8.16	N-B080	-4.98	-3.62	-3.18	-2.71	-2.26	-1.75
2940	Winners	11.41	8.15	N-B080	-4.47	-3.11	-2.67	-2.20	-1.75	-1.24
2952	Winners	11.98	9.31	N-B080	-5.04	-3.68	-3.24	-2.77	-2.32	-1.81
2962	Winners	12.36	8.97	N-B080	-5.42	-4.06	-3.62	-3.15	-2.70	-2.19
2957	Winners	12.11	9.15	N-B080	-5.17	-3.81	-3.37	-2.90	-2.45	-1.94
2972	Winners	12.05	9.34	N-B120	-5.03	-3.63	-3.21	-2.76	-2.26	-1.83
2979	Winners	11.86	9.38	N-B120	-4.84	-3.44	-3.02	-2.57	-2.07	-1.64
2982	Winners	12.37	9.46	N-B120	-5.35	-3.95	-3.53	-3.08	-2.58	-2.15
2998	Winners	12.35	9.37	N-B120	-5.33	-3.93	-3.51	-3.06	-2.56	-2.13
3010	Winners	12.17	9.08	N-B120	-5.15	-3.75	-3.33	-2.88	-2.38	-1.95
3011	Winners	12.97	9.03	N-B120	-5.95	-4.55	-4.13	-3.68	-3.18	-2.75
2999	Winners	13.32	9.74	N-B120	-6.30	-4.90	-4.48	-4.03	-3.53	-3.10
3024	Winners	13.04	9.89	N-B160	-5.82	-4.47	-4.07	-3.65	-3.22	-2.75
3032	Winners	12.14	10.11	N-B160	-4.92	-3.57	-3.17	-2.75	-2.32	-1.85
2834	Aqueduct	13.47	10.29	N-B160	-6.25	-4.90	-4.50	-4.08	-3.65	-3.18
2829	Aqueduct	14.36	11.14	N-B160	-7.14	-5.79	-5.39	-4.97	-4.54	-4.07
2838	Aqueduct	14.58	11.35	N-B160	-7.36	-6.01	-5.61	-5.19	-4.76	-4.29
45A	Two Lock	9.12	8.87	N-D030	-1.79	-0.44	-0.06	0.36	0.80	1.27
45B	Two Lock	9.12	8.87	N-D030	-1.79	-0.44	-0.06	0.36	0.80	1.27
45C	Two Lock	9.12	8.87	N-D030	-1.79	-0.44	-0.06	0.36	0.80	1.27
45D	Two Lock	9.12	8.87	N-D030	-1.79	-0.44	-0.06	0.36	0.80	1.27
49A	Two Lock	9.36	9.02	N-D030	-2.03	-0.68	-0.30	0.12	0.56	1.03
49B	Two Lock	9.36	9.02	N-D030	-2.03	-0.68	-0.30	0.12	0.56	1.03
49C	Two Lock	9.36	9.02	N-D030	-2.03	-0.68	-0.30	0.12	0.56	1.03
49D	Two Lock	9.36	9.02	N-D030	-2.03	-0.68	-0.30	0.12	0.56	1.03
49E	Two Lock	9.36	9.02	N-D030	-2.03	-0.68	-0.30	0.12	0.56	1.03
49F	Two Lock	9.36	9.02	N-D030	-2.03	-0.68	-0.30	0.12	0.56	1.03
55A	Two Lock	9.38	9.07	N-D030	-2.05	-0.70	-0.32	0.10	0.54	1.01
55B	Two Lock	9.38	9.07	N-D030	-2.05	-0.70	-0.32	0.10	0.54	1.01
55C	Two Lock	9.38	9.07	N-D030	-2.05	-0.70	-0.32	0.10	0.54	1.01
55D	Two Lock	9.38	9.07	N-D030	-2.05	-0.70	-0.32	0.10	0.54	1.01
55E	Two Lock	9.38	9.07	N-D030	-2.05	-0.70	-0.32	0.10	0.54	1.01
55F	Two Lock	9.38	9.07	N-D030	-2.05	-0.70	-0.32	0.10	0.54	1.01
58A	Two Lock	9.48	9.10	N-D030	-2.15	-0.80	-0.42	0.00	0.44	0.91
58B	Two Lock	9.48	9.10	N-D030	-2.15	-0.80	-0.42	0.00	0.44	0.91
58C	Two Lock	9.48	9.10	N-D030	-2.15	-0.80	-0.42	0.00	0.44	0.91
58D	Two Lock	9.48	9.10	N-D030	-2.15	-0.80	-0.42	0.00	0.44	0.91
58E	Two Lock	9.48	9.10	N-D030	-2.15	-0.80	-0.42	0.00	0.44	0.91
58F	Two Lock	9.48	9.10	N-D030	-2.15	-0.80	-0.42	0.00	0.44	0.91
52A	Two Lock	9.19	8.90	N-D030	-1.86	-0.51	-0.13	0.29	0.73	1.20
52B	Two Lock	9.19	8.90	N-D030	-1.86	-0.51	-0.13	0.29	0.73	1.20
52C	Two Lock	9.19	8.90	N-D030	-1.86	-0.51	-0.13	0.29	0.73	1.20
52D	Two Lock	9.19	8.90	N-D030	-1.86	-0.51	-0.13	0.29	0.73	1.20
52E	Two Lock	9.19	8.90	N-D030	-1.86	-0.51	-0.13	0.29	0.73	1.20
52F	Two Lock	9.19	8.90	N-D030	-1.86	-0.51	-0.13	0.29	0.73	1.20
46A	Two Lock	9.47	9.19	N-D030	-2.14	-0.79	-0.41	0.01	0.45	0.92
46B	Two Lock	9.47	9.19	N-D030	-2.14	-0.79	-0.41	0.01	0.45	0.92
46C	Two Lock	9.47	9.19	N-D030	-2.14	-0.79	-0.41	0.01	0.45	0.92
46D	Two Lock	9.47	9.19	N-D030	-2.14	-0.79	-0.41	0.01	0.45	0.92

Total	0	0	1	33	34	40
Houses	0	0	1	1	2	8
Townhouses	0	0	0	32	32	32

Church Creek Watershed

House Flooding

Alternative 4

July 13, 2001

				WSEL						
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	6.87	7.92	8.29	8.59	8.9	9.26
				N-B120	6.95	8.06	8.4	8.67	8.97	9.31
				N-B160	7.13	8.21	8.52	8.78	9.05	9.38
				N-C060	8.35	9.93	10.34	10.71	11.15	11.63
				N-D030	7.35	8.43	8.75	9	9.27	9.56
Depth of Flooding Inside the Houses (ft)										
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-2.07	-0.49	-0.08	0.29	0.73	1.21
21	Mowler	10.05	---	N-C060	-1.70	-0.12	0.29	0.66	1.10	1.58
22	Mowler	10.52	---	N-C060	-2.17	-0.59	-0.18	0.19	0.63	1.11
23	Mowler	10.02	---	N-C060	-1.67	-0.09	0.32	0.69	1.13	1.61
24	Mowler	10.34	---	N-C060	-1.99	-0.41	0.00	0.37	0.81	1.29
25	Mowler	10.51	---	N-C060	-2.16	-0.58	-0.17	0.20	0.64	1.12
26	Mowler	10.24	---	N-C060	-1.89	-0.31	0.10	0.47	0.91	1.39
27	Mowler	11.05	---	N-C060	-2.70	-1.12	-0.71	-0.34	0.10	0.58
28	Mowler	10.58	---	N-C060	-2.23	-0.65	-0.24	0.13	0.57	1.05
29	Mowler	11.26	---	N-C060	-2.91	-1.33	-0.92	-0.55	-0.11	0.37
54	Wolk	9.64	---	N-C060	-1.29	0.29	0.70	1.07	1.51	1.99
56	Wolk	10.80	---	N-C060	-2.45	-0.87	-0.46	-0.09	0.35	0.83
58	Wolk	10.95	---	N-C060	-2.60	-1.02	-0.61	-0.24	0.20	0.68
59	Wolk	12.18	11.36	N-C060	-3.83	-2.25	-1.84	-1.47	-1.03	-0.55
60	Wolk	11.79	---	N-C060	-3.44	-1.86	-1.45	-1.08	-0.64	-0.16
61	Wolk	10.92	9.70	N-C060	-2.57	-0.99	-0.58	-0.21	0.23	0.71
63	Wolk	10.07	---	N-C060	-1.72	-0.14	0.27	0.64	1.08	1.56
65	Wolk	10.33	---	N-C060	-1.98	-0.40	0.01	0.38	0.82	1.30
67	Wolk	10.59	---	N-C060	-2.24	-0.66	-0.25	0.12	0.56	1.04
69	Wolk	11.01	---	N-C060	-2.66	-1.08	-0.67	-0.30	0.14	0.62
19	Darcy	10.81	10.06	N-C060	-2.46	-0.88	-0.47	-0.10	0.34	0.82
21	Darcy	10.75	10.03	N-C060	-2.40	-0.82	-0.41	-0.04	0.40	0.88
23	Darcy	10.82	9.96	N-C060	-2.47	-0.89	-0.48	-0.11	0.33	0.81
25	Darcy	10.57	9.86	N-C060	-2.22	-0.64	-0.23	0.14	0.58	1.06
27	Darcy	10.87	10.49	N-C060	-2.52	-0.94	-0.53	-0.16	0.28	0.76
2905	Winners	12.17	8.47	N-B080	-5.30	-4.25	-3.88	-3.58	-3.27	-2.91
2911	Winners	8.55	7.47	N-B080	-1.68	-0.63	-0.26	0.04	0.35	0.71
1927	Hialeah	11.92	8.16	N-B080	-5.05	-4.00	-3.63	-3.33	-3.02	-2.66
2940	Winners	11.41	8.15	N-B080	-4.54	-3.49	-3.12	-2.82	-2.51	-2.15
2952	Winners	11.98	9.31	N-B080	-5.11	-4.06	-3.69	-3.39	-3.08	-2.72
2962	Winners	12.36	8.97	N-B080	-5.49	-4.44	-4.07	-3.77	-3.46	-3.10
2957	Winners	12.11	9.15	N-B080	-5.24	-4.19	-3.82	-3.52	-3.21	-2.85
2972	Winners	12.05	9.34	N-B120	-5.10	-3.99	-3.65	-3.38	-3.08	-2.74
2979	Winners	11.86	9.38	N-B120	-4.91	-3.80	-3.46	-3.19	-2.89	-2.55
2982	Winners	12.37	9.46	N-B120	-5.42	-4.31	-3.97	-3.70	-3.40	-3.06
2998	Winners	12.35	9.37	N-B120	-5.40	-4.29	-3.95	-3.68	-3.38	-3.04
3010	Winners	12.17	9.08	N-B120	-5.22	-4.11	-3.77	-3.50	-3.20	-2.86
3011	Winners	12.97	9.03	N-B120	-6.02	-4.91	-4.57	-4.30	-4.00	-3.66
2999	Winners	13.32	9.74	N-B120	-6.37	-5.26	-4.92	-4.65	-4.35	-4.01
3024	Winners	13.04	9.89	N-B160	-5.91	-4.83	-4.52	-4.26	-3.99	-3.66
3032	Winners	12.14	10.11	N-B160	-5.01	-3.93	-3.62	-3.36	-3.09	-2.76
2834	Aqueduct	13.47	10.29	N-B160	-6.34	-5.26	-4.95	-4.69	-4.42	-4.09
2829	Aqueduct	14.36	11.14	N-B160	-7.23	-6.15	-5.84	-5.58	-5.31	-4.98
2838	Aqueduct	14.58	11.35	N-B160	-7.45	-6.37	-6.06	-5.80	-5.53	-5.20
45A	Two Lock	9.12	8.87	N-D030	-1.77	-0.69	-0.37	-0.12	0.15	0.44
45B	Two Lock	9.12	8.87	N-D030	-1.77	-0.69	-0.37	-0.12	0.15	0.44
45C	Two Lock	9.12	8.87	N-D030	-1.77	-0.69	-0.37	-0.12	0.15	0.44
45D	Two Lock	9.12	8.87	N-D030	-1.77	-0.69	-0.37	-0.12	0.15	0.44
49A	Two Lock	9.36	9.02	N-D030	-2.01	-0.93	-0.61	-0.36	-0.09	0.20
49B	Two Lock	9.36	9.02	N-D030	-2.01	-0.93	-0.61	-0.36	-0.09	0.20
49C	Two Lock	9.36	9.02	N-D030	-2.01	-0.93	-0.61	-0.36	-0.09	0.20
49D	Two Lock	9.36	9.02	N-D030	-2.01	-0.93	-0.61	-0.36	-0.09	0.20
49E	Two Lock	9.36	9.02	N-D030	-2.01	-0.93	-0.61	-0.36	-0.09	0.20
49F	Two Lock	9.36	9.02	N-D030	-2.01	-0.93	-0.61	-0.36	-0.09	0.20
55A	Two Lock	9.38	9.07	N-D030	-2.03	-0.95	-0.63	-0.38	-0.11	0.18
55B	Two Lock	9.38	9.07	N-D030	-2.03	-0.95	-0.63	-0.38	-0.11	0.18
55C	Two Lock	9.38	9.07	N-D030	-2.03	-0.95	-0.63	-0.38	-0.11	0.18
55D	Two Lock	9.38	9.07	N-D030	-2.03	-0.95	-0.63	-0.38	-0.11	0.18
55E	Two Lock	9.38	9.07	N-D030	-2.03	-0.95	-0.63	-0.38	-0.11	0.18
55F	Two Lock	9.38	9.07	N-D030	-2.03	-0.95	-0.63	-0.38	-0.11	0.18
58A	Two Lock	9.48	9.10	N-D030	-2.13	-1.05	-0.73	-0.48	-0.21	0.08
58B	Two Lock	9.48	9.10	N-D030	-2.13	-1.05	-0.73	-0.48	-0.21	0.08
58C	Two Lock	9.48	9.10	N-D030	-2.13	-1.05	-0.73	-0.48	-0.21	0.08
58D	Two Lock	9.48	9.10	N-D030	-2.13	-1.05	-0.73	-0.48	-0.21	0.08
58E	Two Lock	9.48	9.10	N-D030	-2.13	-1.05	-0.73	-0.48	-0.21	0.08
58F	Two Lock	9.48	9.10	N-D030	-2.13	-1.05	-0.73	-0.48	-0.21	0.08
52A	Two Lock	9.19	8.90	N-D030	-1.84	-0.76	-0.44	-0.19	0.08	0.37
52B	Two Lock	9.19	8.90	N-D030	-1.84	-0.76	-0.44	-0.19	0.08	0.37
52C	Two Lock	9.19	8.90	N-D030	-1.84	-0.76	-0.44	-0.19	0.08	0.37
52D	Two Lock	9.19	8.90	N-D030	-1.84	-0.76	-0.44	-0.19	0.08	0.37
52E	Two Lock	9.19	8.90	N-D030	-1.84	-0.76	-0.44	-0.19	0.08	0.37
52F	Two Lock	9.19	8.90	N-D030	-1.84	-0.76	-0.44	-0.19	0.08	0.37
46A	Two Lock	9.47	9.19	N-D030	-2.12	-1.04	-0.72	-0.47	-0.20	0.09
46B	Two Lock	9.47	9.19	N-D030	-2.12	-1.04	-0.72	-0.47	-0.20	0.09
46C	Two Lock	9.47	9.19	N-D030	-2.12	-1.04	-0.72	-0.47	-0.20	0.09
46D	Two Lock	9.47	9.19	N-D030	-2.12	-1.04	-0.72	-0.47	-0.20	0.09
Total					0	1	7	14	33	56
Houses					0	1	7	14	23	24
Townhouses					0	0	0	0	10	32

Church Creek Watershed
House Flooding
Alternative 5
July 13, 2001

WSEL										
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	7.28	8.51	8.93	9.37	9.76	10.3
				N-B120	7.4	8.62	9.02	9.44	9.83	10.35
				N-B160	7.72	8.76	9.14	9.54	9.94	10.42
				N-C060	8.43	9.97	10.38	10.75	11.19	11.68
				N-D030	7.83	8.86	9.23	9.61	10.02	10.49
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.99	-0.45	-0.04	0.33	0.77	1.26
21	Mowler	10.05	---	N-C060	-1.62	-0.08	0.33	0.70	1.14	1.63
22	Mowler	10.52	---	N-C060	-2.09	-0.55	-0.14	0.23	0.67	1.16
23	Mowler	10.02	---	N-C060	-1.59	-0.05	0.36	0.73	1.17	1.66
24	Mowler	10.34	---	N-C060	-1.91	-0.37	0.04	0.41	0.85	1.34
25	Mowler	10.51	---	N-C060	-2.08	-0.54	-0.13	0.24	0.68	1.17
26	Mowler	10.24	---	N-C060	-1.81	-0.27	0.14	0.51	0.95	1.44
27	Mowler	11.05	---	N-C060	-2.62	-1.08	-0.67	-0.30	0.14	0.63
28	Mowler	10.58	---	N-C060	-2.15	-0.61	-0.20	0.17	0.61	1.10
29	Mowler	11.26	---	N-C060	-2.83	-1.29	-0.88	-0.51	-0.07	0.42
54	Wolk	9.64	---	N-C060	-1.21	0.33	0.74	1.11	1.55	2.04
56	Wolk	10.80	---	N-C060	-2.37	-0.83	-0.42	-0.05	0.39	0.88
58	Wolk	10.95	---	N-C060	-2.52	-0.98	-0.57	-0.20	0.24	0.73
59	Wolk	12.18	11.36	N-C060	-3.75	-2.21	-1.80	-1.43	-0.99	-0.50
60	Wolk	11.79	---	N-C060	-3.36	-1.82	-1.41	-1.04	-0.60	-0.11
61	Wolk	10.92	9.70	N-C060	-2.49	-0.95	-0.54	-0.17	0.27	0.76
63	Wolk	10.07	---	N-C060	-1.64	-0.10	0.31	0.68	1.12	1.61
65	Wolk	10.33	---	N-C060	-1.90	-0.36	0.05	0.42	0.86	1.35
67	Wolk	10.59	---	N-C060	-2.16	-0.62	-0.21	0.16	0.60	1.09
69	Wolk	11.01	---	N-C060	-2.58	-1.04	-0.63	-0.26	0.18	0.67
19	Darcy	10.81	10.06	N-C060	-2.38	-0.84	-0.43	-0.06	0.38	0.87
21	Darcy	10.75	10.03	N-C060	-2.32	-0.78	-0.37	0.00	0.44	0.93
23	Darcy	10.82	9.96	N-C060	-2.39	-0.85	-0.44	-0.07	0.37	0.86
25	Darcy	10.57	9.86	N-C060	-2.14	-0.60	-0.19	0.18	0.62	1.11
27	Darcy	10.87	10.49	N-C060	-2.44	-0.90	-0.49	-0.12	0.32	0.81
2905	Winners	12.17	8.47	N-B080	-4.89	-3.66	-3.24	-2.80	-2.41	-1.87
2911	Winners	8.55	7.47	N-B080	-1.27	-0.04	0.38	0.82	1.21	1.75
1927	Hialeah	11.92	8.16	N-B080	-4.64	-3.41	-2.99	-2.55	-2.16	-1.62
2940	Winners	11.41	8.15	N-B080	-4.13	-2.90	-2.48	-2.04	-1.65	-1.11
2952	Winners	11.98	9.31	N-B080	-4.70	-3.47	-3.05	-2.61	-2.22	-1.68
2962	Winners	12.36	8.97	N-B080	-5.08	-3.85	-3.43	-2.99	-2.60	-2.06
2957	Winners	12.11	9.15	N-B080	-4.83	-3.60	-3.18	-2.74	-2.35	-1.81
2972	Winners	12.05	9.34	N-B120	-4.65	-3.43	-3.03	-2.61	-2.22	-1.70
2979	Winners	11.86	9.38	N-B120	-4.46	-3.24	-2.84	-2.42	-2.03	-1.51
2982	Winners	12.37	9.46	N-B120	-4.97	-3.75	-3.35	-2.93	-2.54	-2.02
2998	Winners	12.35	9.37	N-B120	-4.95	-3.73	-3.33	-2.91	-2.52	-2.00
3010	Winners	12.17	9.08	N-B120	-4.77	-3.55	-3.15	-2.73	-2.34	-1.82
3011	Winners	12.97	9.03	N-B120	-5.57	-4.35	-3.95	-3.53	-3.14	-2.62
2999	Winners	13.32	9.74	N-B120	-5.92	-4.70	-4.30	-3.88	-3.49	-2.97
3024	Winners	13.04	9.89	N-B160	-5.32	-4.28	-3.90	-3.50	-3.10	-2.62
3032	Winners	12.14	10.11	N-B160	-4.42	-3.38	-3.00	-2.60	-2.20	-1.72
2834	Aqueduct	13.47	10.29	N-B160	-5.75	-4.71	-4.33	-3.93	-3.53	-3.05
2829	Aqueduct	14.36	11.14	N-B160	-6.64	-5.60	-5.22	-4.82	-4.42	-3.94
2838	Aqueduct	14.58	11.35	N-B160	-6.86	-5.82	-5.44	-5.04	-4.64	-4.16
45A	Two Lock	9.12	8.87	N-D030	-1.29	-0.26	0.11	0.49	0.90	1.37
45B	Two Lock	9.12	8.87	N-D030	-1.29	-0.26	0.11	0.49	0.90	1.37
45C	Two Lock	9.12	8.87	N-D030	-1.29	-0.26	0.11	0.49	0.90	1.37
45D	Two Lock	9.12	8.87	N-D030	-1.29	-0.26	0.11	0.49	0.90	1.37
49A	Two Lock	9.36	9.02	N-D030	-1.53	-0.50	-0.13	0.25	0.66	1.13
49B	Two Lock	9.36	9.02	N-D030	-1.53	-0.50	-0.13	0.25	0.66	1.13
49C	Two Lock	9.36	9.02	N-D030	-1.53	-0.50	-0.13	0.25	0.66	1.13
49D	Two Lock	9.36	9.02	N-D030	-1.53	-0.50	-0.13	0.25	0.66	1.13
49E	Two Lock	9.36	9.02	N-D030	-1.53	-0.50	-0.13	0.25	0.66	1.13
49F	Two Lock	9.36	9.02	N-D030	-1.53	-0.50	-0.13	0.25	0.66	1.13
55A	Two Lock	9.38	9.07	N-D030	-1.55	-0.52	-0.15	0.23	0.64	1.11
55B	Two Lock	9.38	9.07	N-D030	-1.55	-0.52	-0.15	0.23	0.64	1.11
55C	Two Lock	9.38	9.07	N-D030	-1.55	-0.52	-0.15	0.23	0.64	1.11
55D	Two Lock	9.38	9.07	N-D030	-1.55	-0.52	-0.15	0.23	0.64	1.11
55E	Two Lock	9.38	9.07	N-D030	-1.55	-0.52	-0.15	0.23	0.64	1.11
55F	Two Lock	9.38	9.07	N-D030	-1.55	-0.52	-0.15	0.23	0.64	1.11
58A	Two Lock	9.48	9.10	N-D030	-1.65	-0.62	-0.25	0.13	0.54	1.01
58B	Two Lock	9.48	9.10	N-D030	-1.65	-0.62	-0.25	0.13	0.54	1.01
58C	Two Lock	9.48	9.10	N-D030	-1.65	-0.62	-0.25	0.13	0.54	1.01
58D	Two Lock	9.48	9.10	N-D030	-1.65	-0.62	-0.25	0.13	0.54	1.01
58E	Two Lock	9.48	9.10	N-D030	-1.65	-0.62	-0.25	0.13	0.54	1.01
58F	Two Lock	9.48	9.10	N-D030	-1.65	-0.62	-0.25	0.13	0.54	1.01
52A	Two Lock	9.19	8.90	N-D030	-1.36	-0.33	0.04	0.42	0.83	1.30
52B	Two Lock	9.19	8.90	N-D030	-1.36	-0.33	0.04	0.42	0.83	1.30
52C	Two Lock	9.19	8.90	N-D030	-1.36	-0.33	0.04	0.42	0.83	1.30
52D	Two Lock	9.19	8.90	N-D030	-1.36	-0.33	0.04	0.42	0.83	1.30
52E	Two Lock	9.19	8.90	N-D030	-1.36	-0.33	0.04	0.42	0.83	1.30
52F	Two Lock	9.19	8.90	N-D030	-1.36	-0.33	0.04	0.42	0.83	1.30
46A	Two Lock	9.47	9.19	N-D030	-1.64	-0.61	-0.24	0.14	0.55	1.02
46B	Two Lock	9.47	9.19	N-D030	-1.64	-0.61	-0.24	0.14	0.55	1.02
46C	Two Lock	9.47	9.19	N-D030	-1.64	-0.61	-0.24	0.14	0.55	1.02
46D	Two Lock	9.47	9.19	N-D030	-1.64	-0.61	-0.24	0.14	0.55	1.02
Total					0	1	18	47	55	56
Houses					0	1	8	15	23	24
Townhouses					0	0	10	32	32	32

Church Creek Watershed
House Flooding
Alternative 6
July 13, 2001

WSEL						
Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
N-B080	7.2	8.35	8.73	9.07	9.44	9.78
N-B120	7.31	8.47	8.83	9.15	9.5	9.84
N-B160	7.62	8.6	8.94	9.25	9.58	9.92
N-C060	8.44	9.97	10.38	10.75	11.19	11.67
N-D030	7.78	8.77	9.1	9.38	9.7	10.04

Number	Street	FF Elev	Ground	Node ID	Depth of Flooding Inside the Houses (ft)					
					2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.98	-0.45	-0.04	0.33	0.77	1.25
21	Mowler	10.05	---	N-C060	-1.61	-0.08	0.33	0.70	1.14	1.62
22	Mowler	10.52	---	N-C060	-2.08	-0.55	-0.14	0.23	0.67	1.15
23	Mowler	10.02	---	N-C060	-1.58	-0.05	0.36	0.73	1.17	1.65
24	Mowler	10.34	---	N-C060	-1.90	-0.37	0.04	0.41	0.85	1.33
25	Mowler	10.51	---	N-C060	-2.07	-0.54	-0.13	0.24	0.68	1.16
26	Mowler	10.24	---	N-C060	-1.80	-0.27	0.14	0.51	0.95	1.43
27	Mowler	11.05	---	N-C060	-2.61	-1.08	-0.67	-0.30	0.14	0.62
28	Mowler	10.58	---	N-C060	-2.14	-0.61	-0.20	0.17	0.61	1.09
29	Mowler	11.26	---	N-C060	-2.82	-1.29	-0.88	-0.51	-0.07	0.41
54	Wolk	9.64	---	N-C060	-1.20	0.33	0.74	1.11	1.55	2.03
56	Wolk	10.80	---	N-C060	-2.36	-0.83	-0.42	-0.05	0.39	0.87
58	Wolk	10.95	---	N-C060	-2.51	-0.98	-0.57	-0.20	0.24	0.72
59	Wolk	12.18	11.36	N-C060	-3.74	-2.21	-1.80	-1.43	-0.99	-0.51
60	Wolk	11.79	---	N-C060	-3.35	-1.82	-1.41	-1.04	-0.60	-0.12
61	Wolk	10.92	9.70	N-C060	-2.48	-0.95	-0.54	-0.17	0.27	0.75
63	Wolk	10.07	---	N-C060	-1.63	-0.10	0.31	0.68	1.12	1.60
65	Wolk	10.33	---	N-C060	-1.89	-0.36	0.05	0.42	0.86	1.34
67	Wolk	10.59	---	N-C060	-2.15	-0.62	-0.21	0.16	0.60	1.08
69	Wolk	11.01	---	N-C060	-2.57	-1.04	-0.63	-0.26	0.18	0.66
19	Darcy	10.81	10.06	N-C060	-2.37	-0.84	-0.43	-0.06	0.38	0.86
21	Darcy	10.75	10.03	N-C060	-2.31	-0.78	-0.37	0.00	0.44	0.92
23	Darcy	10.82	9.96	N-C060	-2.38	-0.85	-0.44	-0.07	0.37	0.85
25	Darcy	10.57	9.86	N-C060	-2.13	-0.60	-0.19	0.18	0.62	1.10
27	Darcy	10.87	10.49	N-C060	-2.43	-0.90	-0.49	-0.12	0.32	0.80
2905	Winners	12.17	8.47	N-B080	-4.97	-3.82	-3.44	-3.10	-2.73	-2.39
2911	Winners	8.55	7.47	N-B080	-1.35	-0.20	0.18	0.52	0.89	1.23
1927	Hialeah	11.92	8.16	N-B080	-4.72	-3.57	-3.19	-2.85	-2.48	-2.14
2940	Winners	11.41	8.15	N-B080	-4.21	-3.06	-2.68	-2.34	-1.97	-1.63
2952	Winners	11.98	9.31	N-B080	-4.78	-3.63	-3.25	-2.91	-2.54	-2.20
2962	Winners	12.36	8.97	N-B080	-5.16	-4.01	-3.63	-3.29	-2.92	-2.58
2957	Winners	12.11	9.15	N-B080	-4.91	-3.76	-3.38	-3.04	-2.67	-2.33
2972	Winners	12.05	9.34	N-B120	-4.74	-3.58	-3.22	-2.90	-2.55	-2.21
2979	Winners	11.86	9.38	N-B120	-4.55	-3.39	-3.03	-2.71	-2.36	-2.02
2982	Winners	12.37	9.46	N-B120	-5.06	-3.90	-3.54	-3.22	-2.87	-2.53
2998	Winners	12.35	9.37	N-B120	-5.04	-3.88	-3.52	-3.20	-2.85	-2.51
3010	Winners	12.17	9.08	N-B120	-4.86	-3.70	-3.34	-3.02	-2.67	-2.33
3011	Winners	12.97	9.03	N-B120	-5.66	-4.50	-4.14	-3.82	-3.47	-3.13
2999	Winners	13.32	9.74	N-B120	-6.01	-4.85	-4.49	-4.17	-3.82	-3.48
3024	Winners	13.04	9.89	N-B160	-5.42	-4.44	-4.10	-3.79	-3.46	-3.12
3032	Winners	12.14	10.11	N-B160	-4.52	-3.54	-3.20	-2.89	-2.56	-2.22
2834	Aqueduct	13.47	10.29	N-B160	-5.85	-4.87	-4.53	-4.22	-3.89	-3.55
2829	Aqueduct	14.36	11.14	N-B160	-6.74	-5.76	-5.42	-5.11	-4.78	-4.44
2838	Aqueduct	14.58	11.35	N-B160	-6.96	-5.98	-5.64	-5.33	-5.00	-4.66
45A	Two Lock	9.12	8.87	N-D030	-1.34	-0.35	-0.02	0.26	0.58	0.92
45B	Two Lock	9.12	8.87	N-D030	-1.34	-0.35	-0.02	0.26	0.58	0.92
45C	Two Lock	9.12	8.87	N-D030	-1.34	-0.35	-0.02	0.26	0.58	0.92
45D	Two Lock	9.12	8.87	N-D030	-1.34	-0.35	-0.02	0.26	0.58	0.92
49A	Two Lock	9.36	9.02	N-D030	-1.58	-0.59	-0.26	0.02	0.34	0.68
49B	Two Lock	9.36	9.02	N-D030	-1.58	-0.59	-0.26	0.02	0.34	0.68
49C	Two Lock	9.36	9.02	N-D030	-1.58	-0.59	-0.26	0.02	0.34	0.68
49D	Two Lock	9.36	9.02	N-D030	-1.58	-0.59	-0.26	0.02	0.34	0.68
49E	Two Lock	9.36	9.02	N-D030	-1.58	-0.59	-0.26	0.02	0.34	0.68
49F	Two Lock	9.36	9.02	N-D030	-1.58	-0.59	-0.26	0.02	0.34	0.68
55A	Two Lock	9.38	9.07	N-D030	-1.60	-0.61	-0.28	0.00	0.32	0.66
55B	Two Lock	9.38	9.07	N-D030	-1.60	-0.61	-0.28	0.00	0.32	0.66
55C	Two Lock	9.38	9.07	N-D030	-1.60	-0.61	-0.28	0.00	0.32	0.66
55D	Two Lock	9.38	9.07	N-D030	-1.60	-0.61	-0.28	0.00	0.32	0.66
55E	Two Lock	9.38	9.07	N-D030	-1.60	-0.61	-0.28	0.00	0.32	0.66
55F	Two Lock	9.38	9.07	N-D030	-1.60	-0.61	-0.28	0.00	0.32	0.66
58A	Two Lock	9.48	9.10	N-D030	-1.70	-0.71	-0.38	-0.10	0.22	0.56
58B	Two Lock	9.48	9.10	N-D030	-1.70	-0.71	-0.38	-0.10	0.22	0.56
58C	Two Lock	9.48	9.10	N-D030	-1.70	-0.71	-0.38	-0.10	0.22	0.56
58D	Two Lock	9.48	9.10	N-D030	-1.70	-0.71	-0.38	-0.10	0.22	0.56
58E	Two Lock	9.48	9.10	N-D030	-1.70	-0.71	-0.38	-0.10	0.22	0.56
58F	Two Lock	9.48	9.10	N-D030	-1.70	-0.71	-0.38	-0.10	0.22	0.56
52A	Two Lock	9.19	8.90	N-D030	-1.41	-0.42	-0.09	0.19	0.51	0.85
52B	Two Lock	9.19	8.90	N-D030	-1.41	-0.42	-0.09	0.19	0.51	0.85
52C	Two Lock	9.19	8.90	N-D030	-1.41	-0.42	-0.09	0.19	0.51	0.85
52D	Two Lock	9.19	8.90	N-D030	-1.41	-0.42	-0.09	0.19	0.51	0.85
52E	Two Lock	9.19	8.90	N-D030	-1.41	-0.42	-0.09	0.19	0.51	0.85
52F	Two Lock	9.19	8.90	N-D030	-1.41	-0.42	-0.09	0.19	0.51	0.85
46A	Two Lock	9.47	9.19	N-D030	-1.69	-0.70	-0.37	-0.09	0.23	0.57
46B	Two Lock	9.47	9.19	N-D030	-1.69	-0.70	-0.37	-0.09	0.23	0.57
46C	Two Lock	9.47	9.19	N-D030	-1.69	-0.70	-0.37	-0.09	0.23	0.57
46D	Two Lock	9.47	9.19	N-D030	-1.69	-0.70	-0.37	-0.09	0.23	0.57
Total					0	1	8	37	55	56
Houses					0	1	8	15	23	24
Townhouses					0	0	0	22	32	32

Church Creek Watershed

House Flooding

Option 1 - No controls

July 13, 2001

WSEL						
Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
N-B080	7.78	9.13	9.65	10.05	10.42	10.72
N-B120	7.96	9.21	9.72	10.11	10.49	10.80
N-B160	8.18	9.33	9.81	10.20	10.58	10.91
N-C060	8.67	10.06	10.49	10.89	11.35	11.85
N-D030	8.31	9.46	9.92	10.32	10.71	11.06

Number	Street	FF Elev	Ground	Node ID	Depth of Flooding Inside the Houses (ft)					
					2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.75	-0.36	0.07	0.47	0.93	1.43
21	Mowler	10.05	---	N-C060	-1.38	0.01	0.44	0.84	1.30	1.80
22	Mowler	10.52	---	N-C060	-1.85	-0.46	-0.03	0.37	0.83	1.33
23	Mowler	10.02	---	N-C060	-1.35	0.04	0.47	0.87	1.33	1.83
24	Mowler	10.34	---	N-C060	-1.67	-0.28	0.15	0.55	1.01	1.51
25	Mowler	10.51	---	N-C060	-1.84	-0.45	-0.02	0.38	0.84	1.34
26	Mowler	10.24	---	N-C060	-1.57	-0.18	0.25	0.65	1.11	1.61
27	Mowler	11.05	---	N-C060	-2.38	-0.99	-0.56	-0.16	0.30	0.80
28	Mowler	10.58	---	N-C060	-1.91	-0.52	-0.09	0.31	0.77	1.27
29	Mowler	11.26	---	N-C060	-2.59	-1.20	-0.77	-0.37	0.09	0.59
54	Wolk	9.64	---	N-C060	-0.97	0.42	0.85	1.25	1.71	2.21
56	Wolk	10.80	---	N-C060	-2.13	-0.74	-0.31	0.09	0.55	1.05
58	Wolk	10.95	---	N-C060	-2.28	-0.89	-0.46	-0.06	0.40	0.90
59	Wolk	12.18	11.36	N-C060	-3.51	-2.12	-1.69	-1.29	-0.83	-0.33
60	Wolk	11.79	---	N-C060	-3.12	-1.73	-1.30	-0.90	-0.44	0.06
61	Wolk	10.92	9.70	N-C060	-2.25	-0.86	-0.43	-0.03	0.43	0.93
63	Wolk	10.07	---	N-C060	-1.40	-0.01	0.42	0.82	1.28	1.78
65	Wolk	10.33	---	N-C060	-1.66	-0.27	0.16	0.56	1.02	1.52
67	Wolk	10.59	---	N-C060	-1.92	-0.53	-0.10	0.30	0.76	1.26
69	Wolk	11.01	---	N-C060	-2.34	-0.95	-0.52	-0.12	0.34	0.84
19	Darcy	10.81	10.06	N-C060	-2.14	-0.75	-0.32	0.08	0.54	1.04
21	Darcy	10.75	10.03	N-C060	-2.08	-0.69	-0.26	0.14	0.60	1.10
23	Darcy	10.82	9.96	N-C060	-2.15	-0.76	-0.33	0.07	0.53	1.03
25	Darcy	10.57	9.86	N-C060	-1.90	-0.51	-0.08	0.32	0.78	1.28
27	Darcy	10.87	10.49	N-C060	-2.20	-0.81	-0.38	0.02	0.48	0.98
2905	Winners	12.17	8.47	N-B080	-4.39	-3.04	-2.52	-2.12	-1.75	-1.45
2911	Winners	8.55	7.47	N-B080	-0.77	0.58	1.10	1.50	1.87	2.17
1927	Hialeah	11.92	8.16	N-B080	-4.14	-2.79	-2.27	-1.87	-1.50	-1.20
2940	Winners	11.41	8.15	N-B080	-3.63	-2.28	-1.76	-1.36	-0.99	-0.69
2952	Winners	11.98	9.31	N-B080	-4.20	-2.85	-2.33	-1.93	-1.56	-1.26
2962	Winners	12.36	8.97	N-B080	-4.58	-3.23	-2.71	-2.31	-1.94	-1.64
2957	Winners	12.11	9.15	N-B080	-4.33	-2.98	-2.46	-2.06	-1.69	-1.39
2972	Winners	12.05	9.34	N-B120	-4.09	-2.84	-2.33	-1.94	-1.56	-1.25
2979	Winners	11.86	9.38	N-B120	-3.90	-2.65	-2.14	-1.75	-1.37	-1.06
2982	Winners	12.37	9.46	N-B120	-4.41	-3.16	-2.65	-2.26	-1.88	-1.57
2998	Winners	12.35	9.37	N-B120	-4.39	-3.14	-2.63	-2.24	-1.86	-1.55
3010	Winners	12.17	9.08	N-B120	-4.21	-2.96	-2.45	-2.06	-1.68	-1.37
3011	Winners	12.97	9.03	N-B120	-5.01	-3.76	-3.25	-2.86	-2.48	-2.17
2999	Winners	13.32	9.74	N-B120	-5.36	-4.11	-3.60	-3.21	-2.83	-2.52
3024	Winners	13.04	9.89	N-B160	-4.86	-3.71	-3.23	-2.84	-2.46	-2.13
3032	Winners	12.14	10.11	N-B160	-3.96	-2.81	-2.33	-1.94	-1.56	-1.23
2834	Aqueduct	13.47	10.29	N-B160	-5.29	-4.14	-3.66	-3.27	-2.89	-2.56
2829	Aqueduct	14.36	11.14	N-B160	-6.18	-5.03	-4.55	-4.16	-3.78	-3.45
2838	Aqueduct	14.58	11.35	N-B160	-6.40	-5.25	-4.77	-4.38	-4.00	-3.67
45A	Two Lock	9.12	8.87	N-D030	-0.81	0.34	0.80	1.20	1.59	1.94
45B	Two Lock	9.12	8.87	N-D030	-0.81	0.34	0.80	1.20	1.59	1.94
45C	Two Lock	9.12	8.87	N-D030	-0.81	0.34	0.80	1.20	1.59	1.94
45D	Two Lock	9.12	8.87	N-D030	-0.81	0.34	0.80	1.20	1.59	1.94
49A	Two Lock	9.36	9.02	N-D030	-1.05	0.10	0.56	0.96	1.35	1.70
49B	Two Lock	9.36	9.02	N-D030	-1.05	0.10	0.56	0.96	1.35	1.70
49C	Two Lock	9.36	9.02	N-D030	-1.05	0.10	0.56	0.96	1.35	1.70
49D	Two Lock	9.36	9.02	N-D030	-1.05	0.10	0.56	0.96	1.35	1.70
49E	Two Lock	9.36	9.02	N-D030	-1.05	0.10	0.56	0.96	1.35	1.70
49F	Two Lock	9.36	9.02	N-D030	-1.05	0.10	0.56	0.96	1.35	1.70
55A	Two Lock	9.38	9.07	N-D030	-1.07	0.08	0.54	0.94	1.33	1.68
55B	Two Lock	9.38	9.07	N-D030	-1.07	0.08	0.54	0.94	1.33	1.68
55C	Two Lock	9.38	9.07	N-D030	-1.07	0.08	0.54	0.94	1.33	1.68
55D	Two Lock	9.38	9.07	N-D030	-1.07	0.08	0.54	0.94	1.33	1.68
55E	Two Lock	9.38	9.07	N-D030	-1.07	0.08	0.54	0.94	1.33	1.68
55F	Two Lock	9.38	9.07	N-D030	-1.07	0.08	0.54	0.94	1.33	1.68
58A	Two Lock	9.48	9.10	N-D030	-1.17	-0.02	0.44	0.84	1.23	1.58
58B	Two Lock	9.48	9.10	N-D030	-1.17	-0.02	0.44	0.84	1.23	1.58
58C	Two Lock	9.48	9.10	N-D030	-1.17	-0.02	0.44	0.84	1.23	1.58
58D	Two Lock	9.48	9.10	N-D030	-1.17	-0.02	0.44	0.84	1.23	1.58
58E	Two Lock	9.48	9.10	N-D030	-1.17	-0.02	0.44	0.84	1.23	1.58
58F	Two Lock	9.48	9.10	N-D030	-1.17	-0.02	0.44	0.84	1.23	1.58
52A	Two Lock	9.19	8.90	N-D030	-0.88	0.27	0.73	1.13	1.52	1.87
52B	Two Lock	9.19	8.90	N-D030	-0.88	0.27	0.73	1.13	1.52	1.87
52C	Two Lock	9.19	8.90	N-D030	-0.88	0.27	0.73	1.13	1.52	1.87
52D	Two Lock	9.19	8.90	N-D030	-0.88	0.27	0.73	1.13	1.52	1.87
52E	Two Lock	9.19	8.90	N-D030	-0.88	0.27	0.73	1.13	1.52	1.87
52F	Two Lock	9.19	8.90	N-D030	-0.88	0.27	0.73	1.13	1.52	1.87
46A	Two Lock	9.47	9.19	N-D030	-1.16	-0.01	0.45	0.85	1.24	1.59
46B	Two Lock	9.47	9.19	N-D030	-1.16	-0.01	0.45	0.85	1.24	1.59
46C	Two Lock	9.47	9.19	N-D030	-1.16	-0.01	0.45	0.85	1.24	1.59
46D	Two Lock	9.47	9.19	N-D030	-1.16	-0.01	0.45	0.85	1.24	1.59
Total					0	26	41	51	56	57
Houses					0	4	9	19	24	25
Townhouses					0	22	32	32	32	32

Church Creek Watershed
House Flooding
Option 2 - Peak controls
July 13, 2001

				WSEL						
				Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
				N-B080	7.55	8.94	9.48	9.89	10.31	10.62
				N-B120	7.72	9.03	9.55	9.96	10.37	10.69
				N-B160	7.99	9.16	9.65	10.06	10.46	10.79
				N-C060	8.61	10.04	10.46	10.84	11.29	11.79
				N-D030	8.13	9.28	9.76	10.18	10.58	10.93
Depth of Flooding Inside the Houses (ft)										
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.81	-0.38	0.04	0.42	0.87	1.37
21	Mowler	10.05	---	N-C060	-1.44	-0.01	0.41	0.79	1.24	1.74
22	Mowler	10.52	---	N-C060	-1.91	-0.48	-0.06	0.32	0.77	1.27
23	Mowler	10.02	---	N-C060	-1.41	0.02	0.44	0.82	1.27	1.77
24	Mowler	10.34	---	N-C060	-1.73	-0.30	0.12	0.50	0.95	1.45
25	Mowler	10.51	---	N-C060	-1.90	-0.47	-0.05	0.33	0.78	1.28
26	Mowler	10.24	---	N-C060	-1.63	-0.20	0.22	0.60	1.05	1.55
27	Mowler	11.05	---	N-C060	-2.44	-1.01	-0.59	-0.21	0.24	0.74
28	Mowler	10.58	---	N-C060	-1.97	-0.54	-0.12	0.26	0.71	1.21
29	Mowler	11.26	---	N-C060	-2.65	-1.22	-0.80	-0.42	0.03	0.53
54	Wolk	9.64	---	N-C060	-1.03	0.40	0.82	1.20	1.65	2.15
56	Wolk	10.80	---	N-C060	-2.19	-0.76	-0.34	0.04	0.49	0.99
58	Wolk	10.95	---	N-C060	-2.34	-0.91	-0.49	-0.11	0.34	0.84
59	Wolk	12.18	11.36	N-C060	-3.57	-2.14	-1.72	-1.34	-0.89	-0.39
60	Wolk	11.79	---	N-C060	-3.18	-1.75	-1.33	-0.95	-0.50	0.00
61	Wolk	10.92	9.70	N-C060	-2.31	-0.88	-0.46	-0.08	0.37	0.87
63	Wolk	10.07	---	N-C060	-1.46	-0.03	0.39	0.77	1.22	1.72
65	Wolk	10.33	---	N-C060	-1.72	-0.29	0.13	0.51	0.96	1.46
67	Wolk	10.59	---	N-C060	-1.98	-0.55	-0.13	0.25	0.70	1.20
69	Wolk	11.01	---	N-C060	-2.40	-0.97	-0.55	-0.17	0.28	0.78
19	Darcy	10.81	10.06	N-C060	-2.20	-0.77	-0.35	0.03	0.48	0.98
21	Darcy	10.75	10.03	N-C060	-2.14	-0.71	-0.29	0.09	0.54	1.04
23	Darcy	10.82	9.96	N-C060	-2.21	-0.78	-0.36	0.02	0.47	0.97
25	Darcy	10.57	9.86	N-C060	-1.96	-0.53	-0.11	0.27	0.72	1.22
27	Darcy	10.87	10.49	N-C060	-2.26	-0.83	-0.41	-0.03	0.42	0.92
2905	Winners	12.17	8.47	N-B080	-4.62	-3.23	-2.69	-2.28	-1.86	-1.55
2911	Winners	8.55	7.47	N-B080	-1.00	0.39	0.93	1.34	1.76	2.07
1927	Hialeah	11.92	8.16	N-B080	-4.37	-2.98	-2.44	-2.03	-1.61	-1.30
2940	Winners	11.41	8.15	N-B080	-3.86	-2.47	-1.93	-1.52	-1.10	-0.79
2952	Winners	11.98	9.31	N-B080	-4.43	-3.04	-2.50	-2.09	-1.67	-1.36
2962	Winners	12.36	8.97	N-B080	-4.81	-3.42	-2.88	-2.47	-2.05	-1.74
2957	Winners	12.11	9.15	N-B080	-4.56	-3.17	-2.63	-2.22	-1.80	-1.49
2972	Winners	12.05	9.34	N-B120	-4.33	-3.02	-2.50	-2.09	-1.68	-1.36
2979	Winners	11.86	9.38	N-B120	-4.14	-2.83	-2.31	-1.90	-1.49	-1.17
2982	Winners	12.37	9.46	N-B120	-4.65	-3.34	-2.82	-2.41	-2.00	-1.68
2998	Winners	12.35	9.37	N-B120	-4.63	-3.32	-2.80	-2.39	-1.98	-1.66
3010	Winners	12.17	9.08	N-B120	-4.45	-3.14	-2.62	-2.21	-1.80	-1.48
3011	Winners	12.97	9.03	N-B120	-5.25	-3.94	-3.42	-3.01	-2.60	-2.28
2999	Winners	13.32	9.74	N-B120	-5.60	-4.29	-3.77	-3.36	-2.95	-2.63
3024	Winners	13.04	9.89	N-B160	-5.05	-3.88	-3.39	-2.98	-2.58	-2.25
3032	Winners	12.14	10.11	N-B160	-4.15	-2.98	-2.49	-2.08	-1.68	-1.35
2834	Aqueduct	13.47	10.29	N-B160	-5.48	-4.31	-3.82	-3.41	-3.01	-2.68
2829	Aqueduct	14.36	11.14	N-B160	-6.37	-5.20	-4.71	-4.30	-3.90	-3.57
2838	Aqueduct	14.58	11.35	N-B160	-6.59	-5.42	-4.93	-4.52	-4.12	-3.79
45A	Two Lock	9.12	8.87	N-D030	-0.99	0.16	0.64	1.06	1.46	1.81
45B	Two Lock	9.12	8.87	N-D030	-0.99	0.16	0.64	1.06	1.46	1.81
45C	Two Lock	9.12	8.87	N-D030	-0.99	0.16	0.64	1.06	1.46	1.81
45D	Two Lock	9.12	8.87	N-D030	-0.99	0.16	0.64	1.06	1.46	1.81
49A	Two Lock	9.36	9.02	N-D030	-1.23	-0.08	0.40	0.82	1.22	1.57
49B	Two Lock	9.36	9.02	N-D030	-1.23	-0.08	0.40	0.82	1.22	1.57
49C	Two Lock	9.36	9.02	N-D030	-1.23	-0.08	0.40	0.82	1.22	1.57
49D	Two Lock	9.36	9.02	N-D030	-1.23	-0.08	0.40	0.82	1.22	1.57
49E	Two Lock	9.36	9.02	N-D030	-1.23	-0.08	0.40	0.82	1.22	1.57
49F	Two Lock	9.36	9.02	N-D030	-1.23	-0.08	0.40	0.82	1.22	1.57
55A	Two Lock	9.38	9.07	N-D030	-1.25	-0.10	0.38	0.80	1.20	1.55
55B	Two Lock	9.38	9.07	N-D030	-1.25	-0.10	0.38	0.80	1.20	1.55
55C	Two Lock	9.38	9.07	N-D030	-1.25	-0.10	0.38	0.80	1.20	1.55
55D	Two Lock	9.38	9.07	N-D030	-1.25	-0.10	0.38	0.80	1.20	1.55
55E	Two Lock	9.38	9.07	N-D030	-1.25	-0.10	0.38	0.80	1.20	1.55
55F	Two Lock	9.38	9.07	N-D030	-1.25	-0.10	0.38	0.80	1.20	1.55
58A	Two Lock	9.48	9.10	N-D030	-1.35	-0.20	0.28	0.70	1.10	1.45
58B	Two Lock	9.48	9.10	N-D030	-1.35	-0.20	0.28	0.70	1.10	1.45
58C	Two Lock	9.48	9.10	N-D030	-1.35	-0.20	0.28	0.70	1.10	1.45
58D	Two Lock	9.48	9.10	N-D030	-1.35	-0.20	0.28	0.70	1.10	1.45
58E	Two Lock	9.48	9.10	N-D030	-1.35	-0.20	0.28	0.70	1.10	1.45
58F	Two Lock	9.48	9.10	N-D030	-1.35	-0.20	0.28	0.70	1.10	1.45
52A	Two Lock	9.19	8.90	N-D030	-1.06	0.09	0.57	0.99	1.39	1.74
52B	Two Lock	9.19	8.90	N-D030	-1.06	0.09	0.57	0.99	1.39	1.74
52C	Two Lock	9.19	8.90	N-D030	-1.06	0.09	0.57	0.99	1.39	1.74
52D	Two Lock	9.19	8.90	N-D030	-1.06	0.09	0.57	0.99	1.39	1.74
52E	Two Lock	9.19	8.90	N-D030	-1.06	0.09	0.57	0.99	1.39	1.74
52F	Two Lock	9.19	8.90	N-D030	-1.06	0.09	0.57	0.99	1.39	1.74
46A	Two Lock	9.47	9.19	N-D030	-1.34	-0.19	0.29	0.71	1.11	1.46
46B	Two Lock	9.47	9.19	N-D030	-1.34	-0.19	0.29	0.71	1.11	1.46
46C	Two Lock	9.47	9.19	N-D030	-1.34	-0.19	0.29	0.71	1.11	1.46
46D	Two Lock	9.47	9.19	N-D030	-1.34	-0.19	0.29	0.71	1.11	1.46
Total					0	13	41	50	56	56
Houses					0	3	9	18	24	24
Townhouses					0	10	32	32	32	32

Church Creek Watershed
House Flooding
Option 3 - 24 hour volume controls
July 13, 2001

July 15, 2007

WSEL							
	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
	N-B080	7.42	8.81	9.35	9.81	10.21	10.56
	N-B120	7.58	8.91	9.42	9.87	10.27	10.63
	N-B160	7.89	9.05	9.53	9.96	10.36	10.72
	N-C060	8.54	10.01	10.43	10.82	11.27	11.77
	N-D030	8.04	9.17	9.65	10.08	10.48	10.86

Depth of Flooding Inside the Houses (ft)										
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.88	-0.41	0.01	0.40	0.85	1.35
21	Mowler	10.05	---	N-C060	-1.51	-0.04	0.38	0.77	1.22	1.72
22	Mowler	10.52	---	N-C060	-1.98	-0.51	-0.09	0.30	0.75	1.25
23	Mowler	10.02	---	N-C060	-1.48	-0.01	0.41	0.80	1.25	1.75
24	Mowler	10.34	---	N-C060	-1.80	-0.33	0.09	0.48	0.93	1.43
25	Mowler	10.51	---	N-C060	-1.97	-0.50	-0.08	0.31	0.76	1.26
26	Mowler	10.24	---	N-C060	-1.70	-0.23	0.19	0.58	1.03	1.53
27	Mowler	11.05	---	N-C060	-2.51	-1.04	-0.62	-0.23	0.22	0.72
28	Mowler	10.58	---	N-C060	-2.04	-0.57	-0.15	0.24	0.69	1.19
29	Mowler	11.26	---	N-C060	-2.72	-1.25	-0.83	-0.44	0.01	0.51
54	Wolk	9.64	---	N-C060	-1.10	0.37	0.79	1.18	1.63	2.13
56	Wolk	10.80	---	N-C060	-2.26	-0.79	-0.37	0.02	0.47	0.97
58	Wolk	10.95	---	N-C060	-2.41	-0.94	-0.52	-0.13	0.32	0.82
59	Wolk	12.18	11.36	N-C060	-3.64	-2.17	-1.75	-1.36	-0.91	-0.41
60	Wolk	11.79	---	N-C060	-3.25	-1.78	-1.36	-0.97	-0.52	-0.02
61	Wolk	10.92	9.70	N-C060	-2.38	-0.91	-0.49	-0.10	0.35	0.85
63	Wolk	10.07	---	N-C060	-1.53	-0.06	0.36	0.75	1.20	1.70
65	Wolk	10.33	---	N-C060	-1.79	-0.32	0.10	0.49	0.94	1.44
67	Wolk	10.59	---	N-C060	-2.05	-0.58	-0.16	0.23	0.68	1.18
69	Wolk	11.01	---	N-C060	-2.47	-1.00	-0.58	-0.19	0.26	0.76
19	Darcy	10.81	10.06	N-C060	-2.27	-0.80	-0.38	0.01	0.46	0.96
21	Darcy	10.75	10.03	N-C060	-2.21	-0.74	-0.32	0.07	0.52	1.02
23	Darcy	10.82	9.96	N-C060	-2.28	-0.81	-0.39	0.00	0.45	0.95
25	Darcy	10.57	9.86	N-C060	-2.03	-0.56	-0.14	0.25	0.70	1.20
27	Darcy	10.87	10.49	N-C060	-2.33	-0.86	-0.44	-0.05	0.40	0.90
2905	Winners	12.17	8.47	N-B080	-4.75	-3.36	-2.82	-2.36	-1.96	-1.61
2911	Winners	8.55	7.47	N-B080	-1.13	0.26	0.80	1.26	1.66	2.01
1927	Hialeah	11.92	8.16	N-B080	-4.50	-3.11	-2.57	-2.11	-1.71	-1.36
2940	Winners	11.41	8.15	N-B080	-3.99	-2.60	-2.06	-1.60	-1.20	-0.85
2952	Winners	11.98	9.31	N-B080	-4.56	-3.17	-2.63	-2.17	-1.77	-1.42
2962	Winners	12.36	8.97	N-B080	-4.94	-3.55	-3.01	-2.55	-2.15	-1.80
2957	Winners	12.11	9.15	N-B080	-4.69	-3.30	-2.76	-2.30	-1.90	-1.55
2972	Winners	12.05	9.34	N-B120	-4.47	-3.14	-2.63	-2.18	-1.78	-1.42
2979	Winners	11.86	9.38	N-B120	-4.28	-2.95	-2.44	-1.99	-1.59	-1.23
2982	Winners	12.37	9.46	N-B120	-4.79	-3.46	-2.95	-2.50	-2.10	-1.74
2998	Winners	12.35	9.37	N-B120	-4.77	-3.44	-2.93	-2.48	-2.08	-1.72
3010	Winners	12.17	9.08	N-B120	-4.59	-3.26	-2.75	-2.30	-1.90	-1.54
3011	Winners	12.97	9.03	N-B120	-5.39	-4.06	-3.55	-3.10	-2.70	-2.34
2999	Winners	13.32	9.74	N-B120	-5.74	-4.41	-3.90	-3.45	-3.05	-2.69
3024	Winners	13.04	9.89	N-B160	-5.15	-3.99	-3.51	-3.08	-2.68	-2.32
3032	Winners	12.14	10.11	N-B160	-4.25	-3.09	-2.61	-2.18	-1.78	-1.42
2834	Aqueduct	13.47	10.29	N-B160	-5.58	-4.42	-3.94	-3.51	-3.11	-2.75
2829	Aqueduct	14.36	11.14	N-B160	-6.47	-5.31	-4.83	-4.40	-4.00	-3.64
2838	Aqueduct	14.58	11.35	N-B160	-6.69	-5.53	-5.05	-4.62	-4.22	-3.86
45A	Two Lock	9.12	8.87	N-D030	-1.08	0.05	0.53	0.96	1.36	1.74
45B	Two Lock	9.12	8.87	N-D030	-1.08	0.05	0.53	0.96	1.36	1.74
45C	Two Lock	9.12	8.87	N-D030	-1.08	0.05	0.53	0.96	1.36	1.74
45D	Two Lock	9.12	8.87	N-D030	-1.08	0.05	0.53	0.96	1.36	1.74
49A	Two Lock	9.36	9.02	N-D030	-1.32	-0.19	0.29	0.72	1.12	1.50
49B	Two Lock	9.36	9.02	N-D030	-1.32	-0.19	0.29	0.72	1.12	1.50
49C	Two Lock	9.36	9.02	N-D030	-1.32	-0.19	0.29	0.72	1.12	1.50
49D	Two Lock	9.36	9.02	N-D030	-1.32	-0.19	0.29	0.72	1.12	1.50
49E	Two Lock	9.36	9.02	N-D030	-1.32	-0.19	0.29	0.72	1.12	1.50
49F	Two Lock	9.36	9.02	N-D030	-1.32	-0.19	0.29	0.72	1.12	1.50
55A	Two Lock	9.38	9.07	N-D030	-1.34	-0.21	0.27	0.70	1.10	1.48
55B	Two Lock	9.38	9.07	N-D030	-1.34	-0.21	0.27	0.70	1.10	1.48
55C	Two Lock	9.38	9.07	N-D030	-1.34	-0.21	0.27	0.70	1.10	1.48
55D	Two Lock	9.38	9.07	N-D030	-1.34	-0.21	0.27	0.70	1.10	1.48
55E	Two Lock	9.38	9.07	N-D030	-1.34	-0.21	0.27	0.70	1.10	1.48
55F	Two Lock	9.38	9.07	N-D030	-1.34	-0.21	0.27	0.70	1.10	1.48
58A	Two Lock	9.48	9.10	N-D030	-1.44	-0.31	0.17	0.60	1.00	1.38
58B	Two Lock	9.48	9.10	N-D030	-1.44	-0.31	0.17	0.60	1.00	1.38
58C	Two Lock	9.48	9.10	N-D030	-1.44	-0.31	0.17	0.60	1.00	1.38
58D	Two Lock	9.48	9.10	N-D030	-1.44	-0.31	0.17	0.60	1.00	1.38
58E	Two Lock	9.48	9.10	N-D030	-1.44	-0.31	0.17	0.60	1.00	1.38
58F	Two Lock	9.48	9.10	N-D030	-1.44	-0.31	0.17	0.60	1.00	1.38
52A	Two Lock	9.19	8.90	N-D030	-1.15	-0.02	0.46	0.89	1.29	1.67
52B	Two Lock	9.19	8.90	N-D030	-1.15	-0.02	0.46	0.89	1.29	1.67
52C	Two Lock	9.19	8.90	N-D030	-1.15	-0.02	0.46	0.89	1.29	1.67
52D	Two Lock	9.19	8.90	N-D030	-1.15	-0.02	0.46	0.89	1.29	1.67
52E	Two Lock	9.19	8.90	N-D030	-1.15	-0.02	0.46	0.89	1.29	1.67
52F	Two Lock	9.19	8.90	N-D030	-1.15	-0.02	0.46	0.89	1.29	1.67
46A	Two Lock	9.47	9.19	N-D030	-1.43	-0.30	0.18	0.61	1.01	1.39
46B	Two Lock	9.47	9.19	N-D030	-1.43	-0.30	0.18	0.61	1.01	1.39
46C	Two Lock	9.47	9.19	N-D030	-1.43	-0.30	0.18	0.61	1.01	1.39
46D	Two Lock	9.47	9.19	N-D030	-1.43	-0.30	0.18	0.61	1.01	1.39

Total	0	6	41	49	56	56
Houses	0	2	9	17	24	24
Townhouses	0	4	32	32	32	32

Church Creek Watershed

House Flooding

Option 6 - Peak and 24 hour volume controls

July 13, 2001

WSEL						
Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
N-B080	7.24	8.54	8.98	9.39	9.82	10.62
N-B120	7.36	8.64	9.07	9.45	9.87	10.69
N-B160	7.68	8.78	9.17	9.54	9.96	10.79
N-C060	8.45	9.98	10.39	10.76	11.20	11.79
N-D030	7.85	8.92	9.31	9.66	10.08	10.93

Number	Street	FF Elev	Ground	Node ID	Depth of Flooding Inside the Houses (ft)					
					2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
20	Mowler	10.42	---	N-C060	-1.97	-0.44	-0.03	0.34	0.78	1.37
21	Mowler	10.05	---	N-C060	-1.60	-0.07	0.34	0.71	1.15	1.74
22	Mowler	10.52	---	N-C060	-2.07	-0.54	-0.13	0.24	0.68	1.27
23	Mowler	10.02	---	N-C060	-1.57	-0.04	0.37	0.74	1.18	1.77
24	Mowler	10.34	---	N-C060	-1.89	-0.36	0.05	0.42	0.86	1.45
25	Mowler	10.51	---	N-C060	-2.06	-0.53	-0.12	0.25	0.69	1.28
26	Mowler	10.24	---	N-C060	-1.79	-0.26	0.15	0.52	0.96	1.55
27	Mowler	11.05	---	N-C060	-2.60	-1.07	-0.66	-0.29	0.15	0.74
28	Mowler	10.58	---	N-C060	-2.13	-0.60	-0.19	0.18	0.62	1.21
29	Mowler	11.26	---	N-C060	-2.81	-1.28	-0.87	-0.50	-0.06	0.53
54	Wolk	9.64	---	N-C060	-1.19	0.34	0.75	1.12	1.56	2.15
56	Wolk	10.80	---	N-C060	-2.35	-0.82	-0.41	-0.04	0.40	0.99
58	Wolk	10.95	---	N-C060	-2.50	-0.97	-0.56	-0.19	0.25	0.84
59	Wolk	12.18	11.36	N-C060	-3.73	-2.20	-1.79	-1.42	-0.98	-0.39
60	Wolk	11.79	---	N-C060	-3.34	-1.81	-1.40	-1.03	-0.59	0.00
61	Wolk	10.92	9.70	N-C060	-2.47	-0.94	-0.53	-0.16	0.28	0.87
63	Wolk	10.07	---	N-C060	-1.62	-0.09	0.32	0.69	1.13	1.72
65	Wolk	10.33	---	N-C060	-1.88	-0.35	0.06	0.43	0.87	1.46
67	Wolk	10.59	---	N-C060	-2.14	-0.61	-0.20	0.17	0.61	1.20
69	Wolk	11.01	---	N-C060	-2.56	-1.03	-0.62	-0.25	0.19	0.78
19	Darcy	10.81	10.06	N-C060	-2.36	-0.83	-0.42	-0.05	0.39	0.98
21	Darcy	10.75	10.03	N-C060	-2.30	-0.77	-0.36	0.01	0.45	1.04
23	Darcy	10.82	9.96	N-C060	-2.37	-0.84	-0.43	-0.06	0.38	0.97
25	Darcy	10.57	9.86	N-C060	-2.12	-0.59	-0.18	0.19	0.63	1.22
27	Darcy	10.87	10.49	N-C060	-2.42	-0.89	-0.48	-0.11	0.33	0.92
2905	Winners	12.17	8.47	N-B080	-4.93	-3.63	-3.19	-2.78	-2.35	-1.55
2911	Winners	8.55	7.47	N-B080	-1.31	-0.01	0.43	0.84	1.27	2.07
1927	Hialeah	11.92	8.16	N-B080	-4.68	-3.38	-2.94	-2.53	-2.10	-1.30
2940	Winners	11.41	8.15	N-B080	-4.17	-2.87	-2.43	-2.02	-1.59	-0.79
2952	Winners	11.98	9.31	N-B080	-4.74	-3.44	-3.00	-2.59	-2.16	-1.36
2962	Winners	12.36	8.97	N-B080	-5.12	-3.82	-3.38	-2.97	-2.54	-1.74
2957	Winners	12.11	9.15	N-B080	-4.87	-3.57	-3.13	-2.72	-2.29	-1.49
2972	Winners	12.05	9.34	N-B120	-4.69	-3.41	-2.98	-2.60	-2.18	-1.36
2979	Winners	11.86	9.38	N-B120	-4.50	-3.22	-2.79	-2.41	-1.99	-1.17
2982	Winners	12.37	9.46	N-B120	-5.01	-3.73	-3.30	-2.92	-2.50	-1.68
2998	Winners	12.35	9.37	N-B120	-4.99	-3.71	-3.28	-2.90	-2.48	-1.66
3010	Winners	12.17	9.08	N-B120	-4.81	-3.53	-3.10	-2.72	-2.30	-1.48
3011	Winners	12.97	9.03	N-B120	-5.61	-4.33	-3.90	-3.52	-3.10	-2.28
2999	Winners	13.32	9.74	N-B120	-5.96	-4.68	-4.25	-3.87	-3.45	-2.63
3024	Winners	13.04	9.89	N-B160	-5.36	-4.26	-3.87	-3.50	-3.08	-2.25
3032	Winners	12.14	10.11	N-B160	-4.46	-3.36	-2.97	-2.60	-2.18	-1.35
2834	Aqueduct	13.47	10.29	N-B160	-5.79	-4.69	-4.30	-3.93	-3.51	-2.68
2829	Aqueduct	14.36	11.14	N-B160	-6.68	-5.58	-5.19	-4.82	-4.40	-3.57
2838	Aqueduct	14.58	11.35	N-B160	-6.90	-5.80	-5.41	-5.04	-4.62	-3.79
45A	Two Lock	9.12	8.87	N-D030	-1.27	-0.20	0.19	0.54	0.96	1.81
45B	Two Lock	9.12	8.87	N-D030	-1.27	-0.20	0.19	0.54	0.96	1.81
45C	Two Lock	9.12	8.87	N-D030	-1.27	-0.20	0.19	0.54	0.96	1.81
45D	Two Lock	9.12	8.87	N-D030	-1.27	-0.20	0.19	0.54	0.96	1.81
49A	Two Lock	9.36	9.02	N-D030	-1.51	-0.44	-0.05	0.30	0.72	1.57
49B	Two Lock	9.36	9.02	N-D030	-1.51	-0.44	-0.05	0.30	0.72	1.57
49C	Two Lock	9.36	9.02	N-D030	-1.51	-0.44	-0.05	0.30	0.72	1.57
49D	Two Lock	9.36	9.02	N-D030	-1.51	-0.44	-0.05	0.30	0.72	1.57
49E	Two Lock	9.36	9.02	N-D030	-1.51	-0.44	-0.05	0.30	0.72	1.57
49F	Two Lock	9.36	9.02	N-D030	-1.51	-0.44	-0.05	0.30	0.72	1.57
55A	Two Lock	9.38	9.07	N-D030	-1.53	-0.46	-0.07	0.28	0.70	1.55
55B	Two Lock	9.38	9.07	N-D030	-1.53	-0.46	-0.07	0.28	0.70	1.55
55C	Two Lock	9.38	9.07	N-D030	-1.53	-0.46	-0.07	0.28	0.70	1.55
55D	Two Lock	9.38	9.07	N-D030	-1.53	-0.46	-0.07	0.28	0.70	1.55
55E	Two Lock	9.38	9.07	N-D030	-1.53	-0.46	-0.07	0.28	0.70	1.55
55F	Two Lock	9.38	9.07	N-D030	-1.53	-0.46	-0.07	0.28	0.70	1.55
58A	Two Lock	9.48	9.10	N-D030	-1.63	-0.56	-0.17	0.18	0.60	1.45
58B	Two Lock	9.48	9.10	N-D030	-1.63	-0.56	-0.17	0.18	0.60	1.45
58C	Two Lock	9.48	9.10	N-D030	-1.63	-0.56	-0.17	0.18	0.60	1.45
58D	Two Lock	9.48	9.10	N-D030	-1.63	-0.56	-0.17	0.18	0.60	1.45
58E	Two Lock	9.48	9.10	N-D030	-1.63	-0.56	-0.17	0.18	0.60	1.45
58F	Two Lock	9.48	9.10	N-D030	-1.63	-0.56	-0.17	0.18	0.60	1.45
52A	Two Lock	9.19	8.90	N-D030	-1.34	-0.27	0.12	0.47	0.89	1.74
52B	Two Lock	9.19	8.90	N-D030	-1.34	-0.27	0.12	0.47	0.89	1.74
52C	Two Lock	9.19	8.90	N-D030	-1.34	-0.27	0.12	0.47	0.89	1.74
52D	Two Lock	9.19	8.90	N-D030	-1.34	-0.27	0.12	0.47	0.89	1.74
52E	Two Lock	9.19	8.90	N-D030	-1.34	-0.27	0.12	0.47	0.89	1.74
52F	Two Lock	9.19	8.90	N-D030	-1.34	-0.27	0.12	0.47	0.89	1.74
46A	Two Lock	9.47	9.19	N-D030	-1.62	-0.55	-0.16	0.19	0.61	1.46
46B	Two Lock	9.47	9.19	N-D030	-1.62	-0.55	-0.16	0.19	0.61	1.46
46C	Two Lock	9.47	9.19	N-D030	-1.62	-0.55	-0.16	0.19	0.61	1.46
46D	Two Lock	9.47	9.19	N-D030	-1.62	-0.55	-0.16	0.19	0.61	1.46
Total					0	1	18	47	55	56
Houses					0	1	8	15	23	24
Townhouses					0	0	10	32	32	32

Church Creek Watershed

July 13, 2001

Finish Floor Flooding Summary

(76 total, 44 houses, 32 Townhouses)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
Existing	0, 0, 0	2, 2, 0	30, 8, 22	47, 15, 32	55, 23, 32	56, 24, 32
Alternative #2	0, 0, 0	2, 2, 0	16, 6, 10	46, 14, 32	55, 23, 32	56, 24, 32
Alternative #2b	0, 0, 0	0, 0, 0	13, 3, 10	40, 8, 32	50, 18, 32	56, 24, 32
Alternative #2c	0, 0, 0	0, 0, 0	1, 1, 0	34, 2, 32	37, 5, 32	47, 15, 32
Alternative #3	0, 0, 0	0, 0, 0	1, 1, 0	33, 1, 32	34, 2, 32	40, 8, 32
Alternative #4	0, 0, 0	1, 1, 0	7, 7, 0	14, 14, 0	33, 23, 10	56, 24, 32
Alternative #5	0, 0, 0	1, 1, 0	18, 8, 10	47, 15, 32	55, 23, 32	56, 24, 32
Alternative #6	0, 0, 0	1, 1, 0	8, 8, 0	37, 15, 22	55, 23, 32	56, 24, 32
Future with no controls	0, 0, 0	26, 4, 22	41, 9, 32	51, 19, 32	56, 24, 32	57, 25, 32
Peak controls	0, 0, 0	13, 3, 10	41, 9, 32	50, 18, 32	56, 24, 32	56, 24, 32
Volume controls	0, 0, 0	6, 2, 4	41, 9, 32	49, 17, 32	56, 24, 32	56, 24, 32
Peak and 24 hr controls	0, 0, 0	1, 1, 0	18, 8, 10	47, 15, 32	55, 23, 32	56, 24, 32

Finish Floor Flooding Summary

(76 total, 44 houses, 32 Townhouses)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
Existing	0	2	30	47	55	56
Alternative #2	0	2	16	46	55	56
Alternative #2b	0	0	13	40	50	56
Alternative #2c	0	0	1	34	37	47
Alternative #3	0	0	1	33	34	40
Alternative #4	0	1	7	14	33	56
Alternative #5	0	1	18	47	55	56
Alternative #6	0	1	8	37	55	56
Future with no controls	0	26	41	51	56	57
Peak controls	0	13	41	50	56	56
Volume controls	0	6	41	49	56	56
Peak and 24 hr controls	0	1	18	47	55	56

House Summary

(44 houses)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
Existing	0	2	8	15	23	24
Alternative #2	0	2	6	14	23	24
Alternative #2b	0	0	3	8	18	24
Alternative #2c	0	0	1	2	5	15
Alternative #3	0	0	1	1	2	8
Alternative #4	0	1	7	14	23	24
Alternative #5	0	1	8	15	23	24
Alternative #6	0	1	8	15	23	24
Future with no controls	0	4	9	19	24	25
Peak controls	0	3	9	18	24	24
Volume controls	0	2	9	17	24	24
Peak and 24 hr controls	0	1	8	15	23	24

Townhouse Summary

(32 Townhouses)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr
Existing	0	0	22	32	32	32
Alternative #2	0	0	10	32	32	32
Alternative #2b	0	0	10	32	32	32
Alternative #2c	0	0	0	32	32	32
Alternative #3	0	0	0	32	32	32
Alternative #4	0	0	0	0	10	32
Alternative #5	0	0	10	32	32	32
Alternative #6	0	0	0	22	32	32
Future with no controls	0	22	32	32	32	32
Peak controls	0	10	32	32	32	32
Volume controls	0	4	32	32	32	32
Peak and 24 hr controls	0	0	10	32	32	32

Church Creek Watershed

July 13, 2001

Finish Floor Flooding Summary

(44 houses, 32 Townhouses, 76 total)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94
Existing	0	2	30	47	55	56	1	57	0	0
Alternative #2	0	2	16	55	0	0	17	45	53	0
Alternative #2b	0	0	13	40	50	56	---	---	---	---
Alternative #2c	0	0	1	34	37	47	---	---	---	---
Alternative #3	0	0	1	33	34	40	---	---	---	---
Alternative #4	0	1	7	14	33	56	---	---	---	---
Alternative #5	0	1	18	47	55	56	---	---	---	---
Alternative #6	0	1	8	37	55	56	---	---	---	---
Future with no controls	0	26	41	---	51	---	---	---	---	---
Peak controls	0	13	41	---	50	---	---	---	---	---
Volume controls	0	6	41	---	49	---	---	---	---	---
Peak and 24 hr controls	0	1	18	---	47	---	---	---	---	---

Foundation Summary

(26 houses, 32 Townhouses, 76 total)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94
Existing	0	18	27	30	32	33	5	33	4	1
Alternative #2	4	27	30	32	33	33	22	33	13	4
Alternative #2b	0	5	40	---	53	---	---	---	---	---
Alternative #2c	0	3	33	---	51	---	---	---	---	---
Alternative #3	0	3	20	---	48	---	---	---	---	---
Alternative #4	0	4	9	---	43	---	---	---	---	---
Alternative #5	0	8	42	---	53	---	---	---	---	---
Future with no controls	57	0	1	---	44	---	---	---	---	---
Peak controls	56	0	1	---	41	---	---	---	---	---
Volume controls	56	0	0	---	36	---	---	---	---	---
Peak and 24 hr controls	56	0	0	---	18	---	---	---	---	---

Finish Floor Flooding Summary

(53 total)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94
Existing	0	6	18	27	33	33	1	34	0	0
Existing Using Type 3 CN	0	18	27	32	33	34	9	35	3	0
Alternative #2b	0	3	14	---	28	---	---	---	---	---
Alternative #2c	0	1	7	---	15	---	---	---	---	---
Alternative #3	0	1	7	---	14	---	---	---	---	---
Alternative #4	0	1	7	---	25	---	---	---	---	---

Foundation Summary

(35 total)

	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94
Existing	0	18	27	30	32	33	5	33	4	1
Existing Using Type 3 CN	4	27	30	32	33	33	22	33	13	4
Alternative #2b	0	12	26	---	32	---	---	---	---	---
Alternative #2c	0	8	17	---	30	---	---	---	---	---
Alternative #3	0	7	17	---	30	---	---	---	---	---
Alternative #4	0	5	9	---	20	---	---	---	---	---

Church Creek Watershed
House Flooding
Type 2 Antecedent Runoff Condition for CN Values
February 12, 2001

WSL														WSL																	
Node ID		2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94
N-C000		8.65	10.06	10.48	10.86	11.31	11.79	9.79	11.91	9.47	8.91	8.65	10.06	10.48	10.86	11.31	11.79	9.79	11.91	9.47	8.91	8.65	10.06	10.48	10.86	11.31	11.79	9.79	11.91	9.47	8.91
N-B080		7.47	8.94	9.46	9.84	10.28	10.60	8.43	10.59	8.26	7.58	7.47	8.94	9.46	9.84	10.28	10.60	8.43	10.59	8.26	7.58	7.47	8.94	9.46	9.84	10.28	10.60	8.43	10.59	8.26	7.58
N-B120		7.62	9.03	9.52	9.91	10.33	10.66	8.55	10.66	8.38	7.75	7.62	9.03	9.52	9.91	10.33	10.66	8.55	10.66	8.38	7.75	7.62	9.03	9.52	9.91	10.33	10.66	8.55	10.66	8.38	7.75
N-B160		7.92	9.15	9.62	10.00	10.40	10.74	8.71	10.75	8.55	8.01	7.92	9.15	9.62	10.00	10.40	10.74	8.71	10.75	8.55	8.01	7.92	9.15	9.62	10.00	10.40	10.74	8.71	10.75	8.55	8.01
N-D030		8.07	9.27	9.73	10.12	10.50	10.86	8.83	10.87	8.68	8.16	8.07	9.27	9.73	10.12	10.50	10.86	8.83	10.87	8.68	8.16	8.07	9.27	9.73	10.12	10.50	10.86	8.83	10.87	8.68	8.16
Depth of Flooding Inside the Houses (ft)														Depth of Flooding at Foundation of Houses (ft)																	
Node ID		2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	500-Yr	Sep-99	Sep-98	Feb-98	Oct-94
20 Mowler		10.42	---	N-C060	-1.77	-0.36	0.06	0.44	0.89	1.37	-0.63	1.49	-0.55	-1.51	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
21 Mowler		10.05	---	N-C060	-1.40	0.01	0.43	0.81	1.26	1.74	-0.26	1.86	-0.58	-1.14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
22 Mowler		10.52	---	N-C060	-1.87	-0.44	-0.04	0.34	0.79	1.27	-0.73	1.39	-1.05	-1.61	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
23 Mowler		10.02	---	N-C060	-1.37	0.04	0.46	0.84	1.29	1.77	-0.23	1.89	-0.55	-1.11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
24 Mowler		10.34	---	N-C060	-1.69	-0.28	0.14	0.52	0.97	1.45	-0.55	1.57	-0.87	-1.43	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
25 Mowler		10.51	---	N-C060	-1.86	-0.45	-0.03	0.35	0.80	1.28	-0.72	1.40	-1.04	-1.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26 Mowler		10.24	---	N-C060	-1.59	-0.18	0.24	0.62	1.07	1.55	-0.45	1.67	-0.77	-1.33	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27 Mowler		11.05	---	N-C060	-2.40	-0.99	-0.57	-0.19	0.26	0.74	-1.26	0.86	-1.58	-2.14	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
28 Mowler		10.58	---	N-C060	-1.93	-0.52	-0.10	0.28	0.73	1.21	-0.79	1.33	-1.11	-1.67	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
29 Mowler		11.26	---	N-C060	-2.61	-1.20	-0.78	-0.40	0.05	0.53	-1.47	0.65	-1.79	-2.35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
54 Wolk		9.84	---	N-C060	-0.99	0.42	0.84	1.22	1.67	2.15	0.15	2.27	-0.17	-0.73	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
56 Wolk		10.80	---	N-C060	-2.15	-0.74	-0.32	0.06	0.51	0.99	-1.01	1.11	-1.33	-1.89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
58 Wolk		10.95	---	N-C060	-2.30	-0.89	-0.47	-0.09	0.36	0.84	-1.16	0.96	-1.48	-2.04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
59 Wolk		12.18	11.38	N-C060	-3.53	-2.12	-1.70	-1.32	-0.87	-0.39	-2.39	-0.27	-2.71	-3.27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
60 Wolk		11.79	---	N-C060	-3.14	-1.73	-1.31	-0.93	-0.48	0.00	-2.00	0.12	-2.32	-2.88	-2.71	-1.30	-0.88	-0.50	0.43	-1.57	0.55	---	---	---	---	---	---	---	---	---	
61 Wolk		10.92	9.70	N-C060	-2.27	-0.86	-0.44	-0.06	0.39	0.87	-1.13	0.99	-1.45	-2.01	-1.05	0.36	0.78	1.16	1.61	2.09	0.09	2.21	-0.23	-0.79	---	---	---	---	---	---	
63 Wolk		10.07	---	N-C060	-1.42	-0.01	0.41	0.79	1.24	1.72	-0.26	1.84	-0.60	-1.16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
65 Wolk		10.33	---	N-C060	-1.68	-0.27	0.15	0.53	0.98	1.46	-0.54	1.58	-0.86	-1.42	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
67 Wolk		10.59	---	N-C060	-1.94	-0.53	-0.11	0.27	0.72	1.20	-0.80	1.32	-1.12	-1.68	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
69 Wolk		11.01	---	N-C060	-2.36	-0.95	-0.53	-0.15	0.30	0.78	-1.22	0.90	-1.54	-2.10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19 Darcy		10.81	10.08	N-C060	-2.16	-0.75	-0.33	0.05	0.50	0.98	-1.02	1.10	-1.34	-1.90	-1.41	0.00	0.42	0.80	1.25	1.73	-0.27	1.85	-0.59	-1.15	---	---	---	---	---	---	
21 Darcy		10.75	10.03	N-C060	-2.10	-0.69	-0.27	0.11	0.56	1.04	-0.96	1.16	-1.28	-1.84	-1.38	0.03	0.45	0.83	1.28	1.76	-0.24	1.88	-0.56	-1.12	---	---	---	---	---	---	
23 Darcy		10.82	9.96	N-C060	-2.17	-0.76	-0.34	0.04	0.49	0.97	-1.03	1.09	-1.35	-1.91	-1.31	0.10	0.52	0.90	1.35	1.83	-0.17	1.95	-0.49	-1.05	---	---	---	---	---	---	
25 Darcy		10.57	9.86	N-C060	-1.92	-0.51	-0.09	0.29	0.74	1.22	-0.78	1.34	-1.10	-1.66	-1.21	0.20	0.62	1.00	1.45	1.93	-0.07	2.05	-0.39	-0.95	---	---	---	---	---	---	
27 Darcy		10.87	10.49	N-C060	-2.22	-0.81	-0.39	-0.01	0.44	0.92	-1.08	1.04	-1.40	-1.96	-1.84	-0.43	-0.01	0.37	0.82	1.30	-0.70	1.42	-1.02	-1.58	---	---	---	---	---	---	
2905 Winners		12.17	8.47	N-B080	-4.70	-3.23	-2.71	-2.33	-1.89	-1.57	-3.74	-1.58	-3.91	-4.59	-1.00	0.47	0.99	1.37	1.81	2.13	-0.04	2.12	-0.21	-0.89	---	---	---	---	---	---	
2911 Winners		8.55	7.47	N-B080	-1.08	0.39	0.91	1.29	1.73	2.05	-0.12	2.04	-0.29	-0.97	0.00	1.47	1.99	2.37	2.81	3.13	0.96	3.12	0.79	0.11	---	---	---	---	---	---	
1927 Winners		11.92	8.16	N-B080	-4.45	-2.98	-2.46	-2.08	-1.64	-1.32	-3.49	-1.33	-3.66	-4.34	-0.69	0.78	1.30	1.88	2.12	2.44	0.27	2.43	0.10	-0.58	---	---	---	---	---	---	
2940 Winners		11.41	8.15	N-B080	-3.94	-2.47	-1.95	-1.57	-1.13	-0.81	-2.98	-0.82	-3.15	-3.83	-0.68	0.79	1.31	1.89	2.13	2.45	0.28	2.44	0.11	-0.57	---	---	---	---	---	---	
2952 Winners		11.98	9.31	N-B080	-4.51	-3.04	-2.52	-2.14	-1.70	-1.38	-3.55	-1.39	-3.72	-4.40	-1.84	-0.37	0.15	0.53	0.97	1.29	-0.88	1.28	-1.05	-1.73	---	---	---	---	---	---	
2962 Winners		12.36	8.97	N-B080	-4.89	-3.42	-2.90	-2.52	-2.08	-1.76	-3.93	-1.77	-4.10	-4.78	-1.50	-0.03	0.49	0.87	1.31	1.63	-0.54	1.62	-0.71	-1.39	---	---	---	---	---	---	
2957 Winners		12.11	9.15	N-B080	-3.46	-2.05	-1.63	-1.25	-0.80	-0.32	-2.32	-0.20	-2.64	-3.20	-0.50	0.91	1.33	1.71	2.16	2.64	0.64	2.76	0.32	-0.24	---	---	---	---	---	---	
2972 Winners		12.05	9.34	N-B120	-4.43	-3.02	-2.53	-2.14	-1.72	-1.39	-3.50	-1.39	-3.67	-4.30	-1.72	-0.31	0.18	0.57	0.98	1.32	-0.79	1.32	-0.96	-1.59	---	---	---	---	---	---	
2979 Winners		11.86	9.38	N-B120	-4.24	-2.83	-2.34	-1.95	-1.53	-1.20	-3.31	-1.20	-3.48	-4.11	-1.76	-0.35	0.14	0.53	0.95	1.28	-0.83	1.28	-1.00	-1.63	---	---	---	---	---	---	
2982 Winners		12.37	9.46	N-B120	-4.75	-3.34	-2.85	-2.46	-2.04	-1.71	-3.82	-1.71	-3.99	-4.62	-1.84	-0.43	0.06	0.45	0.87	1.20	-0.91	1.20	-1.08	-1.71	---	---	---	---	---	---	
2986 Winners		12.35	9.37	N-B120	-4.73	-3.32	-2.83	-2.44	-2.02	-1.69	-3.80	-1.69	-3.97	-4.60	-1.75	-0.34	0.15	0.54	0.96	1.29	-0.82	1.29	-0.99	-1.62	---	---	---	---	---	---	
3010 Winners		12.17	9.08	N-B120	-4.65	-3.14	-2.65	-2.26	-1.84	-1.51	-3.62	-1.51	-3.79	-4.42	-1.46	-0.05	0.44	0.83	1.25	1.58	-0.53	1.58	-0.70	-1.33	---	---	---	---	---	---	
3011 Winners		12.97	9.03	N-B120	-5.35	-3.94	-3.45	-3.06	-2.64	-2.31	-4.42	-2.31	-4.59	-5.22	-1.41	0.00	0.49	0.88	1.30	1.63	-0.48	1.63	-0.65	-1.28	---	---	---	---	---	---	
3024 Winners		12.74	9.74	N-B120	-5.12	-3.71	-3.22	-2.83	-2.44	-2.05	-4.47	-2.05	-4.64	-5.30	-1.47	0.00	0.49	0.88	1.30	1.63	-0.48	1.63	-0.65	-1.28	---	---	---	---	---	---	
3024 Winners		13.04	8.98	N-B160	-5.12	-3.89	-3.42	-3.04	-2.64	-2.30	-4.43	-2.29	-4.49	-5.03	-1.97	-0.74	-0.27	0.11	0.51	0.85	-1.18	-0.86	-1.34	-1.88	---	---	---	---	---	---	
3029 Winners		12.14	9.11	N-B160	-4.52	-3.09	-2.52	-2.14	-1.74	-1.40	-3.43	-1.39	-3.59	-4.13	-2.19	-0.68	-0.49	-0.11	0.29	0.63	-1.10	-0.29	-0.63	-1.10	---	---	---	---	---	---	
2934 Aqueduct		10.29	8.77	N-B160	-4.52	-3.09	-2.52	-2.14	-1.74	-1.40	-3.43	-1.39	-3.59	-4.13	-2.19	-0.68	-0.49	-0.11	0.29	0.63	-1.10	-0.29	-0.63	-1.10	---	---	---	---	---	---	
2829 Aqueduct		14.36	11.14	N-B160	-6.44	-5.21	-4.74	-4.36	-3.96	-3.62	-6.65	-3.61	-5.81	-6.35	-3.22	-1.99	-1.52	-1.14	-0.74	-0.40	-2.43	-0.39	-2.59	-1.33	---	---	---	---	---	---	
2838 Aqueduct																															

Church Creek Watershed
House Flooding
Type 3 Antecedent Runoff Condition for CN Values
February 12, 2001

WSEL														WSEL																																																	
		Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	600-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	600-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	600-Yr	Sep-99	Sep-98	Feb-98	Oct-94																															
		N-C060	9.38	10.44	10.83	11.21	11.62	12.06	10.17	12.16	9.82	9.35	9.38	10.44	10.83	11.21	11.62	12.06	10.17	12.16	9.82	9.35	9.38	10.44	10.83	11.21	11.62	12.06	10.17	12.16	9.82	9.35																															
		N-B080	8.30	9.55	9.94	10.31	10.66	10.93	9.08	10.88	8.79	8.24	8.30	9.55	9.94	10.31	10.66	10.93	9.08	10.88	8.79	8.24	8.30	9.55	9.94	10.31	10.66	10.93	9.08	10.88	8.79	8.24																															
		N-B120	8.43	9.62	10.00	10.36	10.63	10.96	9.16	10.92	8.89	8.37	8.43	9.62	10.00	10.36	10.63	10.96	9.16	10.92	8.89	8.37	8.43	9.62	10.00	10.36	10.63	10.96	9.16	10.92	8.89	8.37																															
		N-B160	8.59	9.71	10.09	10.43	10.71	11.00	9.28	11.02	9.02	8.53	8.59	9.71	10.09	10.43	10.71	11.00	9.28	11.02	9.02	8.53	8.59	9.71	10.09	10.43	10.71	11.00	9.28	11.02	9.02	8.53																															
		N-D030	8.71	9.82	10.21	10.53	10.83	11.13	9.40	11.16	9.13	8.65	8.71	9.82	10.21	10.53	10.83	11.13	9.40	11.16	9.13	8.65	8.71	9.82	10.21	10.53	10.83	11.13	9.40	11.16	9.13	8.65																															
Depth of Flooding Inside the Houses (ft)																																Depth of Flooding at Foundation of Houses (ft)																															
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	600-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	600-Yr	Sep-99	Sep-98	Feb-98	Oct-94	2-Yr	10-Yr	25-Yr	50-Yr	100-Yr	600-Yr	Sep-99	Sep-98	Feb-98	Oct-94																													
20	Mowler	10.42	---	N-C060	-1.04	0.02	0.41	0.79	1.20	1.64	-0.25	1.74	-0.60	-1.07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
21	Mowler	10.05	---	N-C060	-0.67	0.39	0.78	1.16	1.57	2.01	0.12	2.11	-0.23	-0.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
22	Mowler	10.52	---	N-C060	-1.14	-0.08	0.31	0.69	1.10	1.54	-0.35	1.64	-0.70	-1.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
23	Mowler	10.02	---	N-C060	-0.64	0.42	0.81	1.19	1.60	2.04	0.15	2.14	-0.20	-0.67	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
24	Mowler	10.34	---	N-C060	-0.96	0.10	0.49	0.87	1.28	1.72	-0.17	1.82	-0.52	-0.99	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
25	Mowler	10.51	---	N-C060	-1.13	-0.07	0.32	0.70	1.11	1.55	-0.34	1.65	-0.69	-1.16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
26	Mowler	10.24	---	N-C060	-0.86	0.20	0.59	0.97	1.38	1.82	-0.07	1.92	-0.42	-0.89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
27	Mowler	11.05	---	N-C060	-1.67	-0.61	-0.22	0.16	0.57	1.01	-0.88	1.11	-1.23	-1.70	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
28	Mowler	10.58	---	N-C060	-1.20	-0.14	0.25	0.63	1.04	1.48	-0.41	1.58	-0.76	-1.23	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
29	Mowler	11.26	---	N-C060	-1.88	-0.82	-0.43	-0.05	0.36	0.80	-1.09	0.90	-1.44	-1.91	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
94	Wolk	---	---	N-C060	-0.26	0.80	1.19	1.57	1.98	2.42	0.53	2.52	0.18	-0.29	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																														
56	Wolk	10.80	---	N-C060	-1.42	-0.36	0.03	0.41	0.82	1.26	-0.63	1.36	-0.98	-1.45	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
58	Wolk	10.95	---	N-C060	-1.57	-0.51	-0.12	0.26	0.67	1.11	-0.78	1.21	-1.13	-1.60	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
59	Wolk	12.18	11.38	N-C060	-2.80	-1.74	-1.35	-0.97	-0.56	-0.12	-0.01	-0.02	-2.96	-2.83	-1.98	-0.92	-0.53	-0.15	0.26	0.70	-1.19	0.80	-1.54	-2.01	---	---	---	---	---	---	---	---	---																														
60	Wolk	11.79	---	N-C060	-2.41	-1.35	-0.96	-0.58	-0.17	0.27	-1.62	0.37	-1.97	-2.44	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
61	Wolk	10.92	9.70	N-C060	-1.54	-0.48	-0.09	0.29	0.70	1.14	-0.75	1.24	-1.10	-1.57	-0.32	0.74	1.13	1.51	1.92	2.38	0.47	2.46	0.12	-0.35	---	---	---	---	---	---	---	---	---																														
63	Wolk	10.07	---	N-C060	-0.69	0.37	0.76	1.14	1.55	1.99	0.10	2.09	-0.25	-0.72	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
65	Wolk	10.33	---	N-C060	-0.95	0.11	0.50	0.88	1.29	1.73	-0.16	1.83	-0.51	-0.98	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
67	Wolk	10.59	---	N-C060	-1.21	-0.15	0.24	0.62	1.03	1.47	-0.42	1.57	-0.77	-1.24	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
69	Wolk	11.01	---	N-C060	-1.63	-0.57	-0.18	0.20	0.61	1.05	-0.84	1.15	-1.19	-1.66	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																													
19	Darcy	10.81	10.06	N-C060	-1.43	-0.37	0.02	0.40	0.81	1.25	-0.64	1.35	-0.99	-1.46	-0.68	0.38	0.77	1.15	1.56	2.00	0.11	2.10	-0.24	-0.71	---	---	---	---	---	---	---	---	---																														
21	Darcy	10.75	10.03	N-C060	-1.37	-0.31	0.08	0.46	0.87	1.31	-0.58	1.41	-0.93	-1.40	-0.65	0.41	0.80	1.18	1.59	2.03	0.14	2.13	-0.21	-0.68	---	---	---	---	---	---	---	---	---																														
23	Darcy	10.82	9.96	N-C060	-1.44	-0.38	0.01	0.39	0.80	1.24	-0.65	1.34	-1.00	-1.47	-0.58	0.48	0.87	1.25	1.66	2.10	0.21	2.20	-0.14	-0.61	---	---	---	---	---	---	---	---	---																														
25	Darcy	10.87	9.86	N-C060	-1.19	-0.13	0.26	0.64	1.05	1.49	-0.40	1.59	-0.75	-1.22	-0.48	0.58	0.97	1.35	1.76	2.20	0.31	2.30	-0.04	-0.51	---	---	---	---	---	---	---	---	---																														
27	Darcy	10.87	10.49	N-C060	-1.49	-0.43	-0.04	0.34	0.75	1.19	-0.70	1.29	-1.05	-1.52	-1.11	-0.05	0.34	0.72	1.13	1.57	-0.32	1.67	-0.67	-1.14	---	---	---	---	---	---	---	---	---																														
2905	Winners	12.17	8.47	N-B080	-3.87	-2.62	-2.23	-1.86	-1.61	-1.24	-3.09	-1.29	-3.38	-3.93	-0.17	1.08	1.47	1.84	2.09	2.46	0.61	2.41	0.32	-0.23	---	---	---	---	---	---	---	---	---	---																													
2911	Winners	8.55	7.47	N-B080	-0.25	1.00	1.39	1.76	2.01	2.38	0.53	2.33	0.24	-0.31	0.83	2.08	2.47	2.84	3.09	3.46	1.61	3.41	1.32	0.77	---	---	---	---	---	---	---	---	---	---																													
1927	Winners	11.92	8.16	N-B080	-3.62	-2.37	-1.98	-1.61	-1.36	-0.99	-2.84	-1.04	-3.13	-3.68	0.14	1.39	1.78	2.15	2.40	2.77	0.92	2.72	0.63	0.08	---	---	---	---	---	---	---	---	---	---																													
2940	Winners	11.41	8.15	N-B080	-3.11	-1.86	-1.47	-1.10	-0.85	-0.48	-2.33	-0.53	-2.62	-3.17	0.15	1.40	1.79	2.16	2.41	2.78	0.93	2.73	0.64	0.09	---	---	---	---	---	---	---	---	---	---																													
2952	Winners	11.98	9.31	N-B080	-3.68	-2.43	-2.04	-1.67	-1.42	-1.05	-2.90	-1.10	-3.19	-3.74	-1.01	0.24	0.63	1.00	1.25	1.62	-0.23	1.57	-0.52	-1.07	---	---	---	---	---	---	---	---	---	---																													
2962	Winners	12.36	8.97	N-B080	-4.06	-2.81	-2.42	-2.05	-1.80	-1.43	-3.28	-1.48	-3.67	-4.12	-0.67	0.58	0.97	1.34	1.59	1.96	0.11	1.91	-0.16	-0.73	---	---	---	---	---	---	---	---	---	---																													
2957	Winners	12.11	9.15	N-B080	-2.73	-1.67	-1.28	-0.90	-0.49	-0.05	-1.94	0.05	-2.29	-2.76	0.23	1.29	1.68	2.06	2.47	2.91	1.02	3.01	0.67	0.20	---	---	---	---	---	---	---	---	---	---																													
2972	Winners	12.05	9.34	N-B120	-3.62	-2.43	-2.05	-1.69	-1.42	-1.09	-2.89	-1.13	-3.16	-3.68	-0.91	0.28	0.66	1.02	1.29	1.62	-0.16	1.58	-0.45	-0.97	---	---	---	---	---	---	---	---	---	---																													
2979	Winners	11.86	9.38	N-B120	-3.43	-2.24	-1.86	-1.50	-1.23	-0.90	-2.70	-0.94	-2.97	-3.49	-0.95	0.24	0.62	0.98	1.25	1.58	-0.22	1.54	-0.49	-1.01	---	---	---	---	---	---	---	---	---	---																													
2982	Winners	12.37	9.46	N-B120	-3.94	-2.75	-2.37	-2.01	-1.74	-1.41	-3.21	-1.45	-3.48	-4.00	-1.03	0.16	0.54	0.90	1.17	1.50	-0.30	1.46	-0.57	-1.09	---	---	---	---	---	---	---	---	---	---																													
2988	Winners	12.35	9.37	N-B120	-3.92	-2.73	-2.35	-1.99	-1.72	-1.39	-3.19	-1.43	-3.46	-3.98	-0.94	0.25	0.63	0.99	1.26	1.59	-0.21	1.55	-0.48	-1.00	---	---	---	---	---	---	---	---	---	---																													
3010	Winners	12.17	9.08	N-B120	-3.74	-2.55	-2.17	-1.81	-1.54	-1.21	-3.01	-1.25	-3.28	-3.80	-0.65	0.54	0.92	1.28	1.55	1.88	0.08	1.84	-0.19	-0.71	---	---	---	---	---	---	---	---	---	---																													
3011	Winners	12.97	9.03	N-B120	-4.54	-3.35	-2.97	-2.61	-2.34	-2.01	-3.81	-2.05	-4.08	-4.60	-0.60	0.59	0.97	1.33	1.60	1.93	0.13	1.89	-0.14	-0.66	---	---	---																																				

Church Creek Watershed
House Flooding
Alternative #2b
February 12, 2001

WSEL				
Node ID	2-Yr	10-Yr	25-Yr	100-Yr
N-C060	7.66	9.67	10.08	10.90
N-B080	7.33	8.82	9.34	10.22
N-B120	7.45	8.91	9.41	10.27
N-B160	7.76	9.04	9.51	10.34
N-D030	7.90	9.15	9.61	10.44

Number	Street	FF Elev	Ground	Node ID	Flooding Inside the Houses (ft)				Foundation of Houses (ft)			
					2-Yr	10-Yr	25-Yr	100-Yr	2-Yr	10-Yr	25-Yr	100-Yr
20	Mowler	10.42	---	N-C060	-2.76	-0.75	-0.34	0.48	---	---	---	---
21	Mowler	10.05	---	N-C060	-2.39	-0.38	0.03	0.85	---	---	---	---
22	Mowler	10.52	---	N-C060	-2.86	-0.85	-0.44	0.38	---	---	---	---
23	Mowler	10.02	---	N-C060	-2.36	-0.35	0.06	0.88	---	---	---	---
24	Mowler	10.34	---	N-C060	-2.68	-0.67	-0.26	0.56	---	---	---	---
25	Mowler	10.51	---	N-C060	-2.85	-0.84	-0.43	0.39	---	---	---	---
26	Mowler	10.24	---	N-C060	-2.58	-0.57	-0.16	0.66	---	---	---	---
27	Mowler	11.05	---	N-C060	-3.39	-1.38	-0.97	-0.15	---	---	---	---
28	Mowler	10.58	---	N-C060	-2.92	-0.91	-0.50	0.32	---	---	---	---
29	Mowler	11.26	---	N-C060	-3.60	-1.59	-1.18	-0.36	---	---	---	---
54	Wolk	9.64	---	N-C060	-1.98	0.03	0.44	1.26	---	---	---	---
56	Wolk	10.80	---	N-C060	-3.14	-1.13	-0.72	0.10	---	---	---	---
58	Wolk	10.95	---	N-C060	-3.29	-1.28	-0.87	-0.05	---	---	---	---
59	Wolk	12.18	11.36	N-C060	-4.52	-2.51	-2.10	-1.28	-3.70	-1.69	-1.28	-0.46
60	Wolk	11.79	---	N-C060	-4.13	-2.12	-1.71	-0.89	---	---	---	---
61	Wolk	10.92	9.70	N-C060	-3.26	-1.25	-0.84	-0.02	-2.04	-0.03	0.38	1.20
63	Wolk	10.07	---	N-C060	-2.41	-0.40	0.01	0.83	---	---	---	---
65	Wolk	10.33	---	N-C060	-2.67	-0.66	-0.25	0.57	---	---	---	---
67	Wolk	10.59	---	N-C060	-2.93	-0.92	-0.51	0.31	---	---	---	---
69	Wolk	11.01	---	N-C060	-3.35	-1.34	-0.93	-0.11	---	---	---	---
19	Darcy	10.81	10.06	N-C060	-3.15	-1.14	-0.73	0.09	-2.40	-0.39	0.02	0.84
21	Darcy	10.75	10.03	N-C060	-3.09	-1.08	-0.67	0.15	-2.37	-0.36	0.05	0.87
23	Darcy	10.82	9.96	N-C060	-3.16	-1.15	-0.74	0.08	-2.30	-0.29	0.12	0.94
25	Darcy	10.57	9.86	N-C060	-2.91	-0.90	-0.49	0.33	-2.20	-0.19	0.22	1.04
27	Darcy	10.87	10.49	N-C060	-3.21	-1.20	-0.79	0.03	-2.83	-0.82	-0.41	0.41
2905	Winners	12.17	8.47	N-B080	-4.84	-3.35	-2.83	-1.95	-1.14	0.35	0.87	1.75
2911	Winners	8.55	7.47	N-B080	-1.22	0.27	0.79	1.67	-0.14	1.35	1.87	2.75
1927	Winners	11.92	8.16	N-B080	-4.59	-3.10	-2.58	-1.70	-0.83	0.66	1.18	2.06
2940	Winners	11.41	8.15	N-B080	-4.08	-2.59	-2.07	-1.19	-0.82	0.67	1.19	2.07
2952	Winners	11.98	9.31	N-B080	-4.65	-3.16	-2.64	-1.76	-1.98	-0.49	0.03	0.91
2962	Winners	12.36	8.97	N-B080	-5.03	-3.54	-3.02	-2.14	-1.64	-0.15	0.37	1.25
2957	Winners	12.11	9.15	N-B080	-4.45	-2.44	-2.03	-1.21	-1.49	0.52	0.93	1.75
2972	Winners	12.05	9.34	N-B120	-4.60	-3.14	-2.64	-1.78	-1.89	-0.43	0.07	0.93
2979	Winners	11.86	9.38	N-B120	-4.41	-2.95	-2.45	-1.59	-1.93	-0.47	0.03	0.89
2982	Winners	12.37	9.46	N-B120	-4.92	-3.46	-2.96	-2.10	-2.01	-0.55	-0.05	0.81
2998	Winners	12.35	9.37	N-B120	-4.90	-3.44	-2.94	-2.08	-1.92	-0.46	0.04	0.90
3010	Winners	12.17	9.08	N-B120	-4.72	-3.26	-2.76	-1.90	-1.63	-0.17	0.33	1.19
3011	Winners	12.97	9.03	N-B120	-5.52	-4.06	-3.56	-2.70	-1.58	-0.12	0.38	1.24
2999	Winners	13.32	9.74	N-B120	-5.87	-4.41	-3.91	-3.05	-2.29	-0.83	-0.33	0.53
3024	Winners	13.04	9.89	N-B160	-5.28	-4.00	-3.53	-2.70	-2.13	-0.85	-0.38	0.45
3032	Winners	12.14	10.11	N-B160	-4.38	-3.10	-2.63	-1.80	-2.35	-1.07	-0.60	0.23
2834	Aqueduct	13.47	10.29	N-B160	-5.71	-4.43	-3.96	-3.13	-2.53	-1.25	-0.78	0.05
2829	Aqueduct	14.36	11.14	N-B160	-6.60	-5.32	-4.85	-4.02	-3.38	-2.10	-1.63	-0.80
2838	Aqueduct	14.58	11.35	N-B160	-6.82	-5.54	-5.07	-4.24	-3.59	-2.31	-1.84	-1.01
45.1	Two Lock	9.12	8.97	N-D030	-1.22	0.03	0.49	1.32	-1.07	0.18	0.64	1.47
45.2	Two Lock	9.48	8.87	N-D030	-1.58	-0.33	0.13	0.96	-0.97	0.28	0.74	1.57
49.1	Two Lock	9.36	9.05	N-D030	-1.46	-0.21	0.25	1.08	-1.15	0.10	0.56	1.39
49.2	Two Lock	9.40	9.02	N-D030	-1.50	-0.25	0.21	1.04	-1.12	0.13	0.59	1.42
55.1	Two Lock	9.42	9.07	N-D030	-1.52	-0.27	0.19	1.02	-1.17	0.08	0.54	1.37
55.2	Two Lock	9.38	9.15	N-D030	-1.48	-0.23	0.23	1.06	-1.25	0.00	0.46	1.29
58	Two Lock	9.48	9.10	N-D030	-1.58	-0.33	0.13	0.96	-1.20	0.05	0.51	1.34
52	Two Lock	9.19	8.90	N-D030	-1.29	-0.04	0.42	1.25	-1.00	0.25	0.71	1.54
46	Two Lock	9.47	9.19	N-D030	-1.57	-0.32	0.14	0.97	-1.29	-0.04	0.42	1.25
Total					0	3	14	28	0	12	26	32

Church Creek Watershed
House Flooding
Alternative #2c
February 12, 2001

WSEL				
Node ID	2-Yr	10-Yr	25-Yr	100-Yr
N-C060	7.84	9.12	9.54	10.31
N-B080	7.28	8.71	9.20	10.08
N-B120	7.39	8.81	9.27	10.13
N-B160	7.70	8.94	9.37	10.20
N-D030	7.83	9.03	9.46	10.29

Number	Street	FF Elev	Ground	Node ID	Flooding Inside the Houses (ft)				Foundation of Houses (ft)			
					2-Yr	10-Yr	25-Yr	100-Yr	2-Yr	10-Yr	25-Yr	100-Yr
20	Mowler	10.42	---	N-C060	-2.58	-1.30	-0.88	-0.11	---	---	---	---
21	Mowler	10.05	---	N-C060	-2.21	-0.93	-0.51	0.26	---	---	---	---
22	Mowler	10.52	---	N-C060	-2.68	-1.40	-0.98	-0.21	---	---	---	---
23	Mowler	10.02	---	N-C060	-2.18	-0.90	-0.48	0.29	---	---	---	---
24	Mowler	10.34	---	N-C060	-2.50	-1.22	-0.80	-0.03	---	---	---	---
25	Mowler	10.51	---	N-C060	-2.67	-1.39	-0.97	-0.20	---	---	---	---
26	Mowler	10.24	---	N-C060	-2.40	-1.12	-0.70	0.07	---	---	---	---
27	Mowler	11.05	---	N-C060	-3.21	-1.93	-1.51	-0.74	---	---	---	---
28	Mowler	10.58	---	N-C060	-2.74	-1.46	-1.04	-0.27	---	---	---	---
29	Mowler	11.26	---	N-C060	-3.42	-2.14	-1.72	-0.95	---	---	---	---
54	Wolk	9.64	---	N-C060	-1.80	-0.52	-0.10	0.67	---	---	---	---
56	Wolk	10.80	---	N-C060	-2.96	-1.68	-1.26	-0.49	---	---	---	---
58	Wolk	10.95	---	N-C060	-3.11	-1.83	-1.41	-0.64	---	---	---	---
59	Wolk	12.18	11.36	N-C060	-4.34	-3.06	-2.64	-1.87	-3.52	-2.24	-1.82	-1.05
60	Wolk	11.79	---	N-C060	-3.95	-2.67	-2.25	-1.48	---	---	---	---
61	Wolk	10.92	9.70	N-C060	-3.08	-1.80	-1.38	-0.61	-1.86	-0.58	-0.16	0.61
63	Wolk	10.07	---	N-C060	-2.23	-0.95	-0.53	0.24	---	---	---	---
65	Wolk	10.33	---	N-C060	-2.49	-1.21	-0.79	-0.02	---	---	---	---
67	Wolk	10.59	---	N-C060	-2.75	-1.47	-1.05	-0.28	---	---	---	---
69	Wolk	11.01	---	N-C060	-3.17	-1.89	-1.47	-0.70	---	---	---	---
19	Darcy	10.81	10.06	N-C060	-2.97	-1.69	-1.27	-0.50	-2.22	-0.94	-0.52	0.25
21	Darcy	10.75	10.03	N-C060	-2.91	-1.63	-1.21	-0.44	-2.19	-0.91	-0.49	0.28
23	Darcy	10.82	9.96	N-C060	-2.98	-1.70	-1.28	-0.51	-2.12	-0.84	-0.42	0.35
25	Darcy	10.57	9.86	N-C060	-2.73	-1.45	-1.03	-0.26	-2.02	-0.74	-0.32	0.45
27	Darcy	10.87	10.49	N-C060	-3.03	-1.75	-1.33	-0.56	-2.65	-1.37	-0.95	-0.18
2905	Winners	12.17	8.47	N-B080	-4.89	-3.46	-2.97	-2.09	-1.19	0.24	0.73	1.61
2911	Winners	8.55	7.47	N-B080	-1.27	0.16	0.65	1.53	-0.19	1.24	1.73	2.61
1927	Winners	11.92	8.16	N-B080	-4.64	-3.21	-2.72	-1.84	-0.88	0.55	1.04	1.92
2940	Winners	11.41	8.15	N-B080	-4.13	-2.70	-2.21	-1.33	-0.87	0.56	1.05	1.93
2952	Winners	11.98	9.31	N-B080	-4.70	-3.27	-2.78	-1.90	-2.03	-0.60	-0.11	0.77
2962	Winners	12.36	8.97	N-B080	-5.08	-3.65	-3.16	-2.28	-1.69	-0.26	0.23	1.11
2957	Winners	12.11	9.15	N-B080	-4.27	-2.99	-2.57	-1.80	-1.31	-0.03	0.39	1.16
2972	Winners	12.05	9.34	N-B120	-4.66	-3.24	-2.78	-1.92	-1.95	-0.53	-0.07	0.79
2979	Winners	11.86	9.38	N-B120	-4.47	-3.05	-2.59	-1.73	-1.99	-0.57	-0.11	0.75
2982	Winners	12.37	9.46	N-B120	-4.98	-3.56	-3.10	-2.24	-2.07	-0.65	-0.19	0.67
2998	Winners	12.35	9.37	N-B120	-4.96	-3.54	-3.08	-2.22	-1.98	-0.56	-0.10	0.76
3010	Winners	12.17	9.08	N-B120	-4.78	-3.36	-2.90	-2.04	-1.69	-0.27	0.19	1.05
3011	Winners	12.97	9.03	N-B120	-5.58	-4.16	-3.70	-2.84	-1.64	-0.22	0.24	1.10
2999	Winners	13.32	9.74	N-B120	-5.93	-4.51	-4.05	-3.19	-2.35	-0.93	-0.47	0.39
3024	Winners	13.04	9.89	N-B160	-5.34	-4.10	-3.67	-2.84	-2.19	-0.95	-0.52	0.31
3032	Winners	12.14	10.11	N-B160	-4.44	-3.20	-2.77	-1.94	-2.41	-1.17	-0.74	0.09
2834	Aquaduct	13.47	10.29	N-B160	-5.77	-4.53	-4.10	-3.27	-2.59	-1.35	-0.92	-0.09
2829	Aquaduct	14.36	11.14	N-B160	-6.66	-5.42	-4.99	-4.16	-3.44	-2.20	-1.77	-0.94
2838	Aquaduct	14.58	11.35	N-B160	-6.88	-5.64	-5.21	-4.38	-3.65	-2.41	-1.98	-1.15
45.1	Two Lock	9.12	8.97	N-D030	-1.29	-0.09	0.34	1.17	-1.14	0.06	0.49	1.32
45.2	Two Lock	9.48	8.87	N-D030	-1.65	-0.45	-0.02	0.81	-1.04	0.16	0.59	1.42
49.1	Two Lock	9.36	9.05	N-D030	-1.53	-0.33	0.10	0.93	-1.22	-0.02	0.41	1.24
49.2	Two Lock	9.40	9.02	N-D030	-1.57	-0.37	0.06	0.89	-1.19	0.01	0.44	1.27
55.1	Two Lock	9.42	9.07	N-D030	-1.59	-0.39	0.04	0.87	-1.24	-0.04	0.39	1.22
55.2	Two Lock	9.38	9.15	N-D030	-1.55	-0.35	0.08	0.91	-1.32	-0.12	0.31	1.14
58	Two Lock	9.48	9.10	N-D030	-1.65	-0.45	-0.02	0.81	-1.27	-0.07	0.36	1.19
52	Two Lock	9.19	8.90	N-D030	-1.36	-0.16	0.27	1.10	-1.07	0.13	0.56	1.39
46	Two Lock	9.47	9.19	N-D030	-1.64	-0.44	-0.01	0.82	-1.36	-0.16	0.27	1.10
Total					0	1	7	15	0	8	17	30

Church Creek Watershed
House Flooding
Alternative #3
February 12, 2001

WSEL				
Node ID	2-Yr	10-Yr	25-Yr	100-Yr
N-C060	7.51	8.96	9.40	10.24
N-B080	7.11	8.65	9.16	10.02
N-B120	7.20	8.75	9.23	10.07
N-B160	7.47	8.89	9.34	10.15
N-D030	7.57	8.98	9.43	10.25

Number	Street	FF Elev	Ground	Node ID	Flooding Inside the Houses (ft)				Foundation of Houses (ft)			
					2-Yr	10-Yr	25-Yr	100-Yr	2-Yr	10-Yr	25-Yr	100-Yr
20	Mowler	10.42	---	N-C060	-2.91	-1.46	-1.02	-0.18	---	---	---	---
21	Mowler	10.05	---	N-C060	-2.54	-1.09	-0.65	0.19	---	---	---	---
22	Mowler	10.52	---	N-C060	-3.01	-1.56	-1.12	-0.28	---	---	---	---
23	Mowler	10.02	---	N-C060	-2.51	-1.06	-0.62	0.22	---	---	---	---
24	Mowler	10.34	---	N-C060	-2.83	-1.38	-0.94	-0.10	---	---	---	---
25	Mowler	10.51	---	N-C060	-3.00	-1.55	-1.11	-0.27	---	---	---	---
26	Mowler	10.24	---	N-C060	-2.73	-1.28	-0.84	0.00	---	---	---	---
27	Mowler	11.05	---	N-C060	-3.54	-2.09	-1.65	-0.81	---	---	---	---
28	Mowler	10.58	---	N-C060	-3.07	-1.62	-1.18	-0.34	---	---	---	---
29	Mowler	11.26	---	N-C060	-3.75	-2.30	-1.86	-1.02	---	---	---	---
54	Wolk	9.64	---	N-C060	-2.13	-0.68	-0.24	0.60	---	---	---	---
56	Wolk	10.80	---	N-C060	-3.29	-1.84	-1.40	-0.56	---	---	---	---
58	Wolk	10.95	---	N-C060	-3.44	-1.99	-1.55	-0.71	---	---	---	---
59	Wolk	12.18	11.36	N-C060	-4.67	-3.22	-2.78	-1.94	-3.85	-2.40	-1.96	-1.12
60	Wolk	11.79	---	N-C060	-4.28	-2.83	-2.39	-1.55	---	---	---	---
61	Wolk	10.92	9.70	N-C060	-3.41	-1.96	-1.52	-0.68	-2.19	-0.74	-0.30	0.54
63	Wolk	10.07	---	N-C060	-2.56	-1.11	-0.67	0.17	---	---	---	---
65	Wolk	10.33	---	N-C060	-2.82	-1.37	-0.93	-0.09	---	---	---	---
67	Wolk	10.59	---	N-C060	-3.08	-1.63	-1.19	-0.35	---	---	---	---
69	Wolk	11.01	---	N-C060	-3.50	-2.05	-1.61	-0.77	---	---	---	---
19	Darcy	10.81	10.06	N-C060	-3.30	-1.85	-1.41	-0.57	-2.55	-1.10	-0.66	0.18
21	Darcy	10.75	10.03	N-C060	-3.24	-1.79	-1.35	-0.51	-2.52	-1.07	-0.63	0.21
23	Darcy	10.82	9.96	N-C060	-3.31	-1.86	-1.42	-0.58	-2.45	-1.00	-0.56	0.28
25	Darcy	10.57	9.86	N-C060	-3.06	-1.61	-1.17	-0.33	-2.35	-0.90	-0.46	0.38
27	Darcy	10.87	10.49	N-C060	-3.36	-1.91	-1.47	-0.63	-2.98	-1.53	-1.09	-0.25
2905	Winners	12.17	8.47	N-B080	-5.06	-3.52	-3.01	-2.15	-1.36	0.18	0.69	1.55
2911	Winners	8.55	7.47	N-B080	-1.44	0.10	0.61	1.47	-0.36	1.18	1.69	2.55
1927	Winners	11.92	8.16	N-B080	-4.81	-3.27	-2.76	-1.90	-1.05	0.49	1.00	1.86
2940	Winners	11.41	8.15	N-B080	-4.30	-2.76	-2.25	-1.39	-1.04	0.50	1.01	1.87
2952	Winners	11.98	9.31	N-B080	-4.87	-3.33	-2.82	-1.96	-2.20	-0.66	-0.15	0.71
2962	Winners	12.36	8.97	N-B080	-5.25	-3.71	-3.20	-2.34	-1.86	-0.32	0.19	1.05
2957	Winners	12.11	9.15	N-B080	-4.60	-3.15	-2.71	-1.87	-1.64	-0.19	0.25	1.09
2972	Winners	12.05	9.34	N-B120	-4.85	-3.30	-2.82	-1.98	-2.14	-0.59	-0.11	0.73
2979	Winners	11.86	9.38	N-B120	-4.66	-3.11	-2.63	-1.79	-2.18	-0.63	-0.15	0.69
2982	Winners	12.37	9.46	N-B120	-5.17	-3.62	-3.14	-2.30	-2.26	-0.71	-0.23	0.61
2998	Winners	12.35	9.37	N-B120	-5.15	-3.60	-3.12	-2.28	-2.17	-0.62	-0.14	0.70
3010	Winners	12.17	9.08	N-B120	-4.97	-3.42	-2.94	-2.10	-1.88	-0.33	0.15	0.99
3011	Winners	12.97	9.03	N-B120	-5.77	-4.22	-3.74	-2.90	-1.83	-0.28	0.20	1.04
2999	Winners	13.32	9.74	N-B120	-6.12	-4.57	-4.09	-3.25	-2.54	-0.99	-0.51	0.33
3024	Winners	13.04	9.89	N-B160	-5.57	-4.15	-3.70	-2.89	-2.42	-1.00	-0.55	0.26
3032	Winners	12.14	10.11	N-B160	-4.67	-3.25	-2.80	-1.99	-2.64	-1.22	-0.77	0.04
2834	Aquaduct	13.47	10.29	N-B160	-6.00	-4.58	-4.13	-3.32	-2.82	-1.40	-0.95	-0.14
2829	Aquaduct	14.36	11.14	N-B160	-6.89	-5.47	-5.02	-4.21	-3.67	-2.25	-1.80	-0.99
2838	Aquaduct	14.58	11.35	N-B160	-7.11	-5.69	-5.24	-4.43	-3.88	-2.46	-2.01	-1.20
45.1	Two Lock	9.12	8.97	N-D030	-1.55	-0.14	0.31	1.13	-1.40	0.01	0.46	1.28
45.2	Two Lock	9.48	8.87	N-D030	-1.91	-0.50	-0.05	0.77	-1.30	0.11	0.56	1.38
49.1	Two Lock	9.36	9.05	N-D030	-1.79	-0.38	0.07	0.89	-1.48	-0.07	0.38	1.20
49.2	Two Lock	9.40	9.02	N-D030	-1.83	-0.42	0.03	0.85	-1.45	-0.04	0.41	1.23
55.1	Two Lock	9.42	9.07	N-D030	-1.85	-0.44	0.01	0.83	-1.50	-0.09	0.36	1.18
55.2	Two Lock	9.38	9.15	N-D030	-1.81	-0.40	0.05	0.87	-1.58	-0.17	0.28	1.10
58	Two Lock	9.48	9.10	N-D030	-1.91	-0.50	-0.05	0.77	-1.53	-0.12	0.33	1.15
52	Two Lock	9.19	8.90	N-D030	-1.62	-0.21	0.24	1.06	-1.33	0.08	0.53	1.35
46	Two Lock	9.47	9.19	N-D030	-1.90	-0.49	-0.04	0.78	-1.62	-0.21	0.24	1.06
Total					0	1	7	14	0	7	17	30

Church Creek Watershed
House Flooding
Alternative #4
February 12, 2001

				WSEL								
				Node ID	2-Yr	10-Yr	25-Yr	100-Yr				
				N-C060	8.54	10.01	10.42	11.21				
				N-B080	6.95	7.99	8.34	8.93				
				N-B120	7.03	8.11	8.44	8.99				
				N-B160	7.23	8.26	8.55	9.07				
				N-D030	7.44	8.47	8.78	9.28				
				Flooding Inside the Houses (ft)					Foundation of Houses (ft)			
Number	Street	FF Elev	Ground	Node ID	2-Yr	10-Yr	25-Yr	100-Yr	2-Yr	10-Yr	25-Yr	100-Yr
20	Mowler	10.42	---	N-C060	-1.88	-0.41	0.00	0.79	---	---	---	---
21	Mowler	10.05	---	N-C060	-1.51	-0.04	0.37	1.16	---	---	---	---
22	Mowler	10.52	---	N-C060	-1.98	-0.51	-0.10	0.69	---	---	---	---
23	Mowler	10.02	---	N-C060	-1.48	-0.01	0.40	1.19	---	---	---	---
24	Mowler	10.34	---	N-C060	-1.80	-0.33	0.08	0.87	---	---	---	---
25	Mowler	10.51	---	N-C060	-1.97	-0.50	-0.09	0.70	---	---	---	---
26	Mowler	10.24	---	N-C060	-1.70	-0.23	0.18	0.97	---	---	---	---
27	Mowler	11.05	---	N-C060	-2.51	-1.04	-0.63	0.16	---	---	---	---
28	Mowler	10.58	---	N-C060	-2.04	-0.57	-0.16	0.63	---	---	---	---
29	Mowler	11.26	---	N-C060	-2.72	-1.25	-0.84	-0.05	---	---	---	---
54	Wolk	9.64	---	N-C060	-1.10	0.37	0.78	1.57	---	---	---	---
56	Wolk	10.80	---	N-C060	-2.26	-0.79	-0.38	0.41	---	---	---	---
58	Wolk	10.95	---	N-C060	-2.41	-0.94	-0.53	0.26	---	---	---	---
59	Wolk	12.18	11.36	N-C060	-3.64	-2.17	-1.76	-0.97	-2.82	-1.35	-0.94	-0.15
60	Wolk	11.79	---	N-C060	-3.25	-1.78	-1.37	-0.58	---	---	---	---
61	Wolk	10.92	9.70	N-C060	-2.38	-0.91	-0.50	0.29	-1.16	0.31	0.72	1.51
63	Wolk	10.07	---	N-C060	-1.53	-0.06	0.35	1.14	---	---	---	---
65	Wolk	10.33	---	N-C060	-1.79	-0.32	0.09	0.88	---	---	---	---
67	Wolk	10.59	---	N-C060	-2.05	-0.58	-0.17	0.62	---	---	---	---
69	Wolk	11.01	---	N-C060	-2.47	-1.00	-0.59	0.20	---	---	---	---
19	Darcy	10.81	10.06	N-C060	-2.27	-0.80	-0.39	0.40	-1.52	-0.05	0.36	1.15
21	Darcy	10.75	10.03	N-C060	-2.21	-0.74	-0.33	0.46	-1.49	-0.02	0.39	1.18
23	Darcy	10.82	9.96	N-C060	-2.28	-0.81	-0.40	0.39	-1.42	0.05	0.46	1.25
25	Darcy	10.57	9.86	N-C060	-2.03	-0.56	-0.15	0.64	-1.32	0.15	0.56	1.35
27	Darcy	10.87	10.49	N-C060	-2.33	-0.86	-0.45	0.34	-1.95	-0.48	-0.07	0.72
2905	Winners	12.17	8.47	N-B080	-5.22	-4.18	-3.83	-3.24	-1.52	-0.48	-0.13	0.46
2911	Winners	8.55	7.47	N-B080	-1.60	-0.56	-0.21	0.38	-0.52	0.52	0.87	1.46
1927	Winners	11.92	8.16	N-B080	-4.97	-3.93	-3.58	-2.99	-1.21	-0.17	0.18	0.77
2940	Winners	11.41	8.15	N-B080	-4.46	-3.42	-3.07	-2.48	-1.20	-0.16	0.19	0.78
2952	Winners	11.98	9.31	N-B080	-5.03	-3.99	-3.64	-3.05	-2.36	-1.32	-0.97	-0.38
2962	Winners	12.36	8.97	N-B080	-5.41	-4.37	-4.02	-3.43	-2.02	-0.98	-0.63	-0.04
2957	Winners	12.11	9.15	N-B080	-3.57	-2.10	-1.69	-0.90	-0.61	0.86	1.27	2.06
2972	Winners	12.05	9.34	N-B120	-5.02	-3.94	-3.61	-3.06	-2.31	-1.23	-0.90	-0.35
2979	Winners	11.86	9.38	N-B120	-4.83	-3.75	-3.42	-2.87	-2.35	-1.27	-0.94	-0.39
2982	Winners	12.37	9.46	N-B120	-5.34	-4.26	-3.93	-3.38	-2.43	-1.35	-1.02	-0.47
2998	Winners	12.35	9.37	N-B120	-5.32	-4.24	-3.91	-3.36	-2.34	-1.26	-0.93	-0.38
3010	Winners	12.17	9.08	N-B120	-5.14	-4.06	-3.73	-3.18	-2.05	-0.97	-0.64	-0.09
3011	Winners	12.97	9.03	N-B120	-5.94	-4.86	-4.53	-3.98	-2.00	-0.92	-0.59	-0.04
2999	Winners	13.32	9.74	N-B120	-6.29	-5.21	-4.88	-4.33	-2.71	-1.63	-1.30	-0.75
3024	Winners	13.04	9.89	N-B160	-5.81	-4.78	-4.49	-3.97	-2.66	-1.63	-1.34	-0.82
3032	Winners	12.14	10.11	N-B160	-4.91	-3.88	-3.59	-3.07	-2.88	-1.85	-1.56	-1.04
2834	Aquaduct	13.47	10.29	N-B160	-6.24	-5.21	-4.92	-4.40	-3.06	-2.03	-1.74	-1.22
2829	Aquaduct	14.36	11.14	N-B160	-7.13	-6.10	-5.81	-5.29	-3.91	-2.88	-2.59	-2.07
2838	Aquaduct	14.58	11.35	N-B160	-7.35	-6.32	-6.03	-5.51	-4.12	-3.09	-2.80	-2.28
45.1	Two Lock	9.12	8.97	N-D030	-1.68	-0.65	-0.34	0.16	-1.53	-0.50	-0.19	0.31
45.2	Two Lock	9.48	8.87	N-D030	-2.04	-1.01	-0.70	-0.20	-1.43	-0.40	-0.09	0.41
49.1	Two Lock	9.36	9.05	N-D030	-1.92	-0.89	-0.58	-0.08	-1.61	-0.58	-0.27	0.23
49.2	Two Lock	9.40	9.02	N-D030	-1.96	-0.93	-0.62	-0.12	-1.58	-0.55	-0.24	0.26
55.1	Two Lock	9.42	9.07	N-D030	-1.98	-0.95	-0.64	-0.14	-1.63	-0.60	-0.29	0.21
55.2	Two Lock	9.38	9.15	N-D030	-1.94	-0.91	-0.60	-0.10	-1.71	-0.68	-0.37	0.13
58	Two Lock	9.48	9.10	N-D030	-2.04	-1.01	-0.70	-0.20	-1.66	-0.63	-0.32	0.18
52	Two Lock	9.19	8.90	N-D030	-1.75	-0.72	-0.41	0.09	-1.46	-0.43	-0.12	0.38
46	Two Lock	9.47	9.19	N-D030	-2.03	-1.00	-0.69	-0.19	-1.75	-0.72	-0.41	0.09
Total					0	1	7	25	0	5	9	20

Stream	Location	Sub-Basins	Area	Total	2-YR			10-YR			25-YR			100-YR		
		Above	(Sq.Mi.)	Impervious	ICPR	Rural Q	Urban Q	ICPR	Rural Q	Urban Q	ICPR	Rural Q	Urban Q	ICPR	Rural Q	Urban Q
				Area (%)												
Church Creek	Above Village Green	N-E260	1.17	0	118	62	---	233	172	---	297	242	---	442	366	---
Church Creek	Below Village Green	N-E010	2.01	4.6	160	86	56	338	236	147	444	333	214	695	502	350
Church Creek	Dunwoody	N-D130	2.35	7.0	126	95	106	287	259	262	376	365	369	613	550	573
Church Creek	Hickory Farms	N-B160	3.63	13.0	302	126	318	507	336	711	612	473	950	907	708	1365
Church Creek	Bees Ferry	N-B010	4.14	13.2	327	137	358	544	363	794	643	511	1057	951	764	1513
Church Creek	Rail Road	N-A110	6.22	12.0	438	177	436	693	461	957	819	649	1274	1090	966	1824
Church Creek	SC-61	N-A030	8.47	18.4	550	215	934	874	553	1914	1055	779	2457	1389	1156	3333
Trib A	Bees Ferry	N-G010	1.37	5.1	89	68	48	134	189	126	155	266	184	196	402	300
Trib A	Rail Road	N-A140	2.07	9.8	123	88	146	181	241	348	209	339	480	276	511	721
Trib B	Hickory Farms	N-B180	1.39	23.2	192	68	316	273	190	690	315	268	896	392	405	1236
Trib B	Par 3 Culvert	N-C010	0.58	23.4	84	39	165	100	113	375	102	160	494	109	243	695
Trib C	Golf Course Pond	N-D020	0.26	24.2	69	24	95	92	71	223	104	100	297	166	154	424

Table 1 -- Results of Regression Equation Analysis

USING THE REGRESSION EQUATIONS FROM USGS REPORT 92-4040
 USING LOWER COASTAL PLAIN AS THE HYDROLOGIC AREA
 USING TR-55 TO COMPUTE PERCENT IMPERVIOUS BASED ON LANDUSE

Stream	Location	Sub-Basins Above	Area (Sq.Mi.)	Total Impervious Area (%)	2-YR		10-YR		25-YR		50-YR		100-YR		500-YR	
					Rural Q cfs	Urban Q cfs	Rural Q cfs	Urban Q cfs	Rural Q cfs	Urban Q cfs	Rural Q cfs	Urban Q cfs	Rural Q cfs	Urban Q cfs	Rural Q cfs	Urban Q cfs
Church Creek	Above Village Green	N-E260	1.16	0.0	62	0	172	0	242	0	300	0	366	0	615	0
Church Creek	Below Village Green	N-E010	2.01	4.6	87	56	237	148	334	215	412	276	502	351	818	513
Church Creek	Dunwoody	N-D130	2.35	7.0	96	106	260	262	366	369	452	462	550	574	887	792
Church Creek	Hickory Farms	N-B160	3.63	13.0	126	319	336	712	473	950	581	1143	708	1366	1113	1723
Church Creek	Bees Ferry	N-B010	4.14	13.2	137	359	363	795	511	1058	627	1269	764	1513	1192	1899
Church Creek	Rail Road	N-A110	6.22	12.0	177	436	461	958	650	1275	794	1529	967	1825	1472	2298
Church Creek	SC-61	N-A030	8.47	18.4	215	934	554	1915	780	2457	950	2868	1157	3334	1729	3942
Trib A	Bees Ferry	N-G010	1.37	5.1	68	48	189	127	267	184	331	236	403	300	671	437
Trib A	Rail Road	N-A140	2.07	9.8	89	147	241	349	340	480	420	591	511	721	831	955
Trib B	Hickory Farms	N-B180	1.39	23.2	69	317	191	690	269	896	333	1059	406	1236	676	1474
Trib B	Par 3 Culvert	N-C010	0.58	23.4	40	165	114	376	160	495	200	591	244	695	428	843
Trib C	Golf Course Pond	N-D020	0.26	24.2	24	95	72	224	101	298	127	359	155	425	285	522

	ID	AREA	ACRES	Sq Mi	CURVE_NUM	IMP	Area * IMP	Accumulative Area per Stream	Accumulative (Area * IMP) per Stream	IMP per stream
	B-G180	8820292.000	202.5	0.32	72	0.03	0.00949	0.316	0.00949	
	B-G160	195205.813	4.5	0.01	79	0.24	0.00168	0.323	0.01117	
	B-G150	1614289.375	37.1	0.06	79	0.05	0.00290	0.381	0.01407	
	B-G140	249274.344	5.7	0.01	82	0.31	0.00277	0.390	0.01684	
	B-G130	551946.563	12.7	0.02	83	0.30	0.00594	0.410	0.02278	
	B-G120	339655.031	7.8	0.01	81	0.30	0.00366	0.422	0.02643	
	B-G110	396944.125	9.1	0.01	81	0.29	0.00413	0.436	0.03056	
	B-G100	13848709.000	317.9	0.50	74	0.01	0.00497	0.933	0.03553	
	B-G090	309811.063	7.1	0.01	81	0.30	0.00333	0.944	0.03886	
	B-G080	275301.438	6.3	0.01	81	0.30	0.00296	0.954	0.04183	
	B-G070	142425.188	3.3	0.01	81	0.30	0.00153	0.959	0.04336	
	B-G060	290999.375	6.7	0.01	80	0.28	0.00292	0.970	0.04628	
	B-G050	3313718.000	76.1	0.12	77	0.01	0.00119	1.089	0.04747	
	B-G020	7963621.000	182.8	0.29	77	0.08	0.02285	1.374	0.07032	0.051
	B-F080	289650.000	6.6	0.01	73	0.01	0.00010	0.010	0.00010	
	B-F060	1093604.875	25.1	0.04	63	0.22	0.00863	0.050	0.00873	
	B-F040	228570.531	5.2	0.01	78	0.24	0.00197	0.058	0.01070	
	B-F030	686432.500	15.8	0.02	75	0.19	0.00468	0.082	0.01538	
	B-F010	1821549.625	41.8	0.07	80	0.27	0.01764	0.148	0.03302	0.223
	B-E270	351757.500	8.1	0.01	81	0.07	0.00088	0.013	0.00088	
	B-E260	32403794.000	743.9	1.16	77	0.00	0.00000	1.175	0.00088	
	B-E252	2430287.500	55.8	0.09	79	0.00	0.00000	1.262	0.00088	
	B-E251	2562394.250	58.8	0.09	79	0.01	0.00092	1.354	0.00180	
	B-E250	293246.219	6.7	0.01	83	0.19	0.00200	1.365	0.00380	
	B-E240	198269.906	4.6	0.01	86	0.30	0.00213	1.372	0.00593	
	B-E231	166854.703	3.8	0.01	79	0.00	0.00000	1.378	0.00593	
	B-E230	734343.125	16.9	0.03	86	0.30	0.00790	1.404	0.01384	
	B-E220	291678.438	6.7	0.01	86	0.30	0.00314	1.414	0.01698	
	B-E210	92990.977	2.1	0.00	86	0.30	0.00100	1.418	0.01798	
	B-E200	239649.016	5.5	0.01	85	0.26	0.00224	1.426	0.02021	
	B-E190	223308.594	5.1	0.01	86	0.30	0.00240	1.434	0.02261	
	B-E180	140471.859	3.2	0.01	86	0.30	0.00151	1.439	0.02413	
	B-E170	405188.938	9.3	0.01	86	0.29	0.00421	1.454	0.02834	
	B-E160	172787.875	4.0	0.01	86	0.30	0.00186	1.460	0.03020	
	B-E150	130114.719	3.0	0.00	86	0.30	0.00140	1.465	0.03160	
	B-E140	234828.938	5.4	0.01	81	0.30	0.00253	1.473	0.03413	
	B-E130	155732.281	3.6	0.01	85	0.30	0.00168	1.479	0.03580	
	B-E120	190539.984	4.4	0.01	86	0.30	0.00205	1.486	0.03785	
	B-E110	572973.563	13.2	0.02	86	0.30	0.00617	1.506	0.04402	
	B-E100	802635.500	18.4	0.03	86	0.30	0.00864	1.535	0.05266	
	B-E090	651379.875	15.0	0.02	86	0.30	0.00701	1.558	0.05967	
	B-E080	330803.281	7.6	0.01	86	0.30	0.00356	1.570	0.06323	
	B-E070	241246.656	5.5	0.01	86	0.30	0.00260	1.579	0.06582	
	B-E060	186364.469	4.3	0.01	86	0.30	0.00201	1.586	0.06783	
	B-E050	631987.563	14.5	0.02	86	0.30	0.00680	1.608	0.07463	
	B-E040	918001.563	21.1	0.03	86	0.30	0.00988	1.641	0.08451	
	B-E030	278457.781	6.4	0.01	85	0.27	0.00270	1.651	0.08720	
	B-E020	234915.469	5.4	0.01	84	0.22	0.00185	1.660	0.08906	
	B-E010	9733348.000	223.4	0.35	72	0.01	0.00349	2.009	0.09255	0.046
	B-D220	511733.844	11.7	0.02	86	0.30	0.00551	0.018	0.00551	
	B-D210	807784.188	18.5	0.03	86	0.30	0.00869	0.047	0.01420	
	B-D190	248609.313	5.7	0.01	86	0.33	0.00294	0.056	0.01714	
	B-D160	3328131.000	76.4	0.12	86	0.30	0.03581	0.176	0.05296	
	B-D140	863923.250	19.8	0.03	84	0.23	0.00713	0.207	0.06008	
	B-D132	2015678.125	46.3	0.07	80	0.06	0.00434	0.279	0.06442	
	B-D131	1086790.375	24.9	0.04	63	0.02	0.00078	0.318	0.06520	
	B-D130	680009.500	15.6	0.02	85	0.26	0.00634	0.342	0.07154	0.209
	B-D110	1296479.875	29.8	0.05	84	0.25	0.01163	0.389	0.08317	
	B-D080	297017.875	6.8	0.01	84	0.24	0.00256	0.399	0.08573	
	B-D050	982610.750	22.6	0.04	86	0.37	0.01304	0.435	0.09877	
	B-D030	2461898.250	56.5	0.09	86	0.32	0.02826	0.523	0.12703	
	B-D020	1330415.250	30.5	0.05	81	0.15	0.00716	0.571	0.13418	
	B-D010	1006426.250	23.1	0.04	76	0.04	0.00144	0.607	0.13563	0.224
	B-C270	1556368.375	35.7	0.06	77	0.08	0.00447	0.056	0.00447	
	B-C230	2090883.875	48.0	0.08	84	0.31	0.02325	0.131	0.02772	
	B-C190	1022340.313	23.5	0.04	82	0.17	0.00623	0.167	0.03395	
	B-C170	4408041.000	101.2	0.16	82	0.19	0.03004	0.326	0.06399	
	B-C150	1571676.875	36.1	0.06	78	0.13	0.00733	0.382	0.07132	
	B-C140	530190.313	12.2	0.02	85	0.25	0.00475	0.401	0.07608	
	B-C130	1768436.125	40.6	0.06	84	0.29	0.01840	0.464	0.09447	
	B-C120	2644876.000	60.7	0.09	84	0.38	0.03605	0.559	0.13052	
	B-C090	3097701.500	71.1	0.11	82	0.24	0.02667	0.670	0.15719	
	B-C080	584948.500	13.4	0.02	77	0.07	0.00147	0.691	0.15866	
	B-C050	330826.625	7.6	0.01	80	0.20	0.00237	0.703	0.16103	
	B-C010	1200215.125	27.6	0.04	83	0.20	0.00861	0.746	0.16964	0.227
	B-B230	1096751.750	25.2	0.04	89	0.44	0.01731	0.039	0.01731	
	B-B170	722032.000	16.6	0.03	87	0.35	0.00906	0.065	0.02637	
	B-B160	1650213.500	37.9	0.06	84	0.23	0.01361	0.124	0.03999	0.321
	B-B140	3930646.000	90.2	0.14	79	0.10	0.01410	0.265	0.05409	
	B-B100	1147253.250	26.3	0.04	78	0.12	0.00494	0.307	0.05903	
	B-B060	4685022.500	107.6	0.17	76	0.05	0.00840	0.475	0.06743	
	B-B040	394320.906	9.1	0.01	88	0.44	0.00622	0.489	0.07365	
	B-B020	4066473.000	93.4	0.15	85	0.28	0.04084	0.635	0.11449	0.180
	B-A140	15180202.000	348.5	0.54	79	0.14	0.07623	0.545	0.07623	
	B-A120	4326200.000	99.3	0.16	83	0.36	0.05587	0.700	0.13210	0.189
	B-A100	2263352.500	52.0	0.08	82	0.42	0.03410	0.781	0.16620	
	B-A060	2734957.250	62.8	0.10	75	0.19	0.01864	0.879	0.18484	
	B-A041	16918212.000	388.4	0.61	83	0.35	0.21240	1.486	0.39724	
	B-A040	17537844.000	402.6	0.63	82	0.32	0.20131	2.115	0.59854	
	B-A030	23380618.000	536.7	0.84	83	0.41	0.34385	2.954	0.94239	0.319

Stream	Location	Node	Area	IMP
Church Creek	Above Villiage Green	N-E260	1.162	0.000
Church Creek	Below Villiage Green	N-E010	2.009	0.046
Church Creek	Dunwoody	N-D130	2.351	0.070
Church Creek	Hickory Farms	N-B160	3.634	0.130
Church Creek	Bees Ferry	N-B010	4.144	0.132
Church Creek	Rail Road	N-A110	6.218	0.120
Church Creek	SC-61	N-A030	8.472	0.184
Trib A	Bees Ferry	N-G010	1.374	0.051
Trib A	Rail Road	N-A140	2.074	0.098
Trib B	Hickory Farms	N-B180	1.393	0.232
Trib B	Par 3 Culvert	N-C010	0.579	0.234
Trib C	Golf Course Pond	N-D020	0.265	0.242

Figure 7-1 Alternative #2 - Control Peak Flow Rates

Pros: Current Practice

Cons: Increased volume downstream,
Increased elevation downstream,
Increased discharge downstream

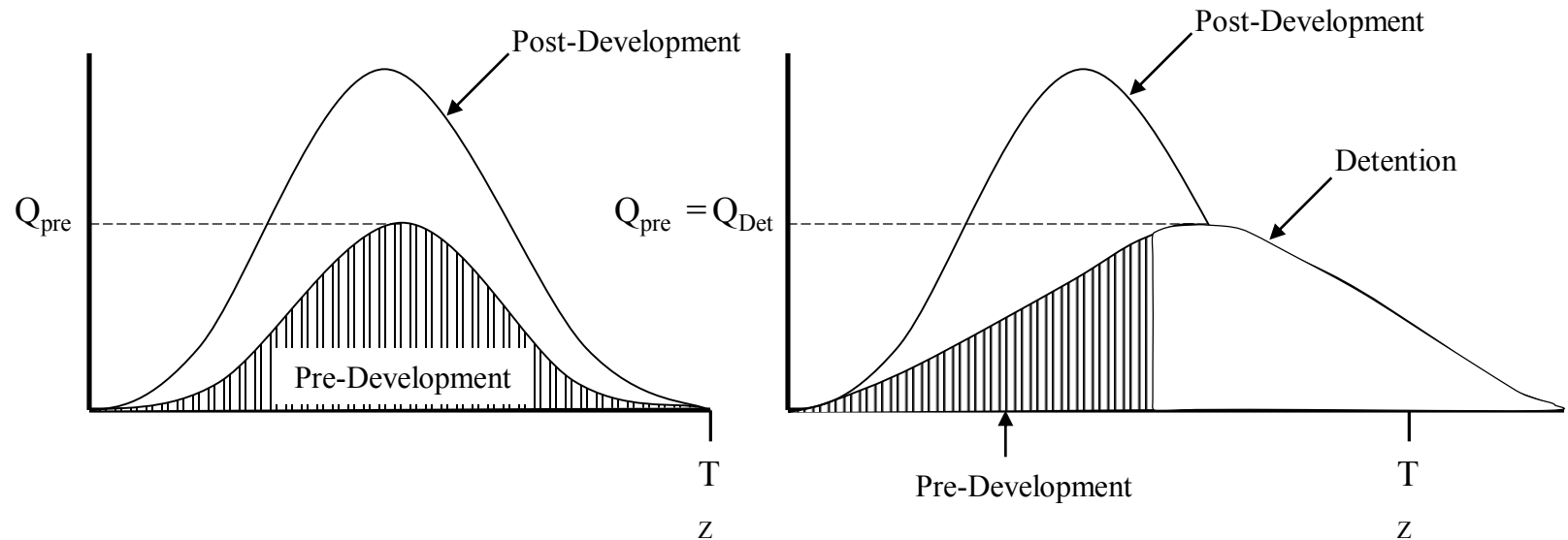


Figure 7-2 Alternative #3 - Detain the excess 24-hour, X-year storm rainfall runoff at the peak detention elevation

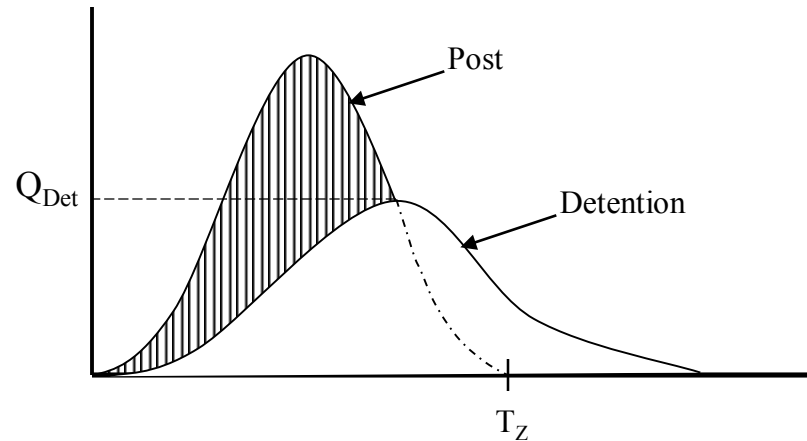
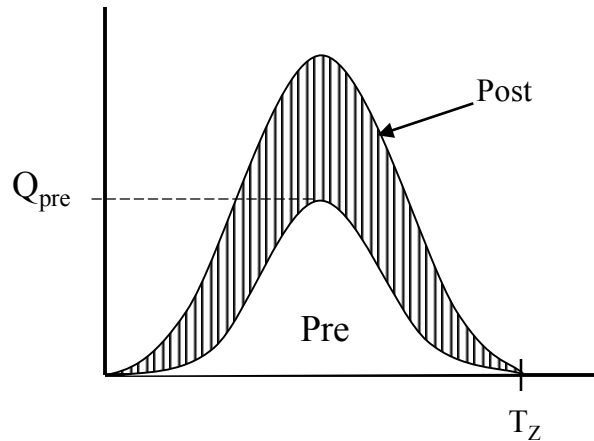
Pros: Excess volume is captured

Cons: Peak rates could be larger than existing

*(excess volume is captured before peak)

Larger volume could travel downstream sooner than existing

*(shape of hydrograph may have centroid sooner than existing conditions)



$$A_{\text{Excess}} = A_{\text{Storage}}$$

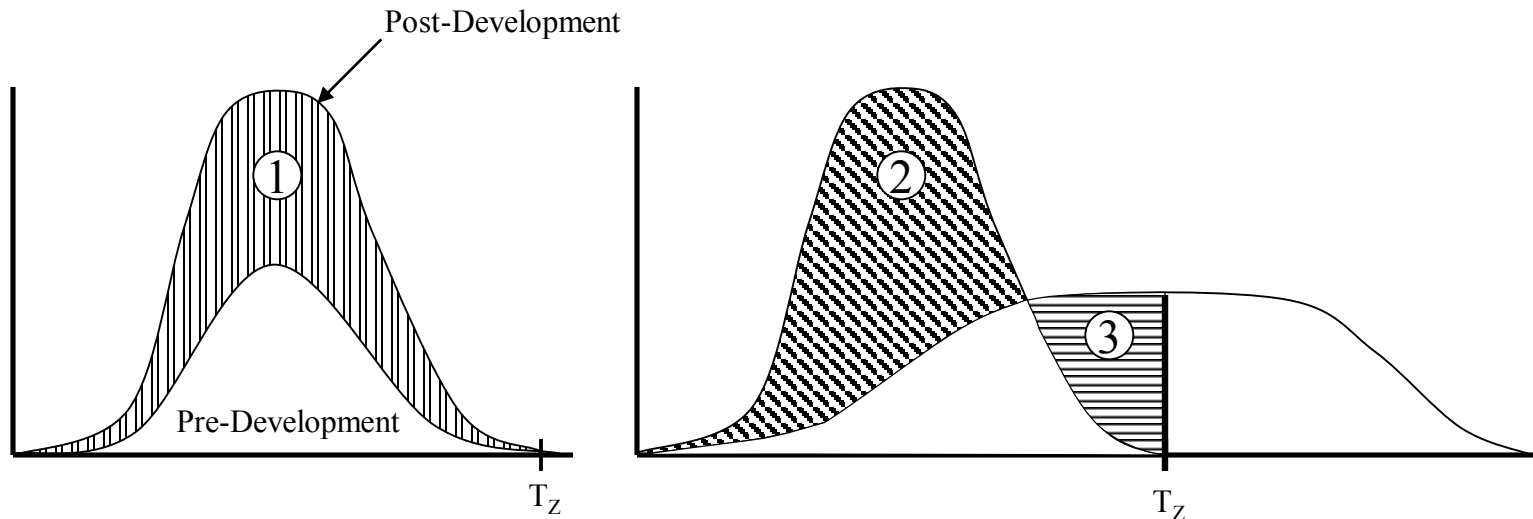
Figure 7-3 Alternative #4 - Detain excess 24-hour X-year rainfall until Z-time

Pros: At peak detention elevation there is more than excess runoff volume
(excess volume + drawdown)

Cons: Peak rates could be larger than existing

*(excess volume is captured before peak)

Excess volume may be less than volume required to control peak



$$A_1 = A_2 - A_3$$

$$A_{\text{Excess}} + A_{\text{Drawdown}} = A_{\text{Storage}}$$

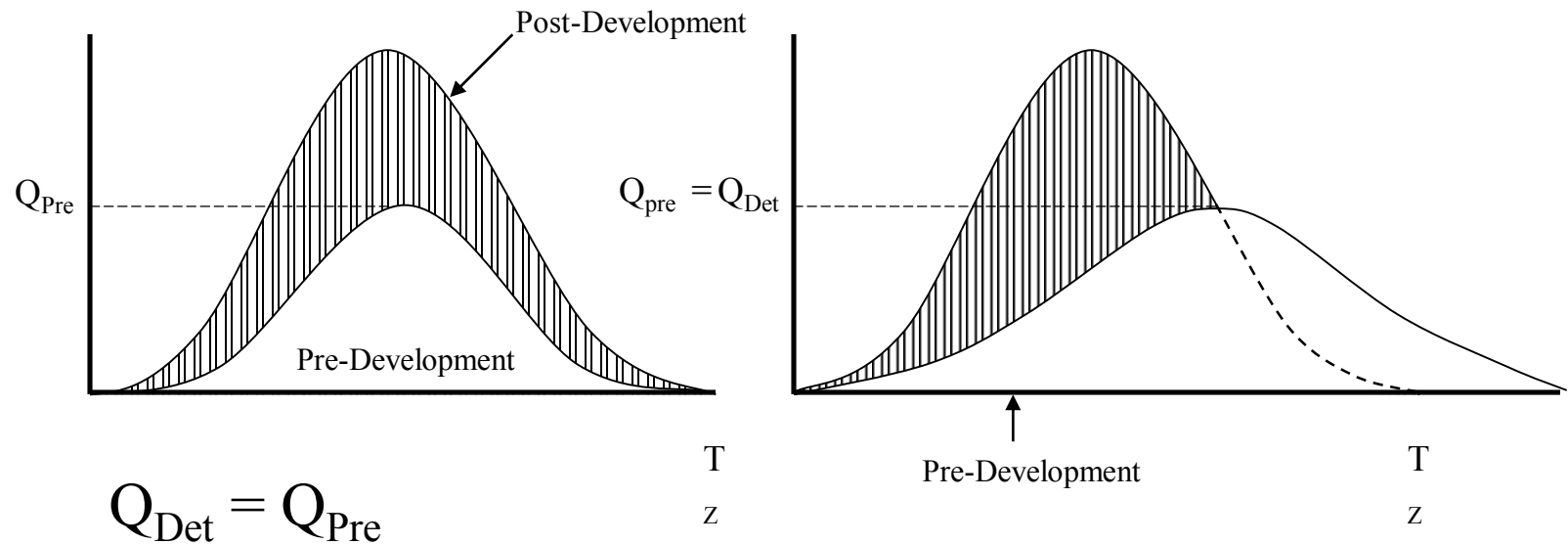
Figure 7-4 Alternative #5 - Detain excess 24-hour X-year at peak detention elevation and control peak discharge

Pros: Excess runoff volume is captured
Peak discharge is controlled

Cons: Larger volume could travel downstream sooner than existing

* (Shape of hydrograph may have centroid sooner)

If drawdown time is large, pond stays full



$$Q_{Det} = Q_{Pre}$$

$$A_{Storage} < A_{Excess}$$

Figure 7-5 Alternative #6 Detain excess 24-hour X-year until Z-time and control peak discharge

Pros: About the same X-hour volume is released for pre- and post- conditions
Peak discharge will be lower than or equal to existing peak flows

Cons: Requires more detention volume
Ponds may stay full longer due to small outlet devices

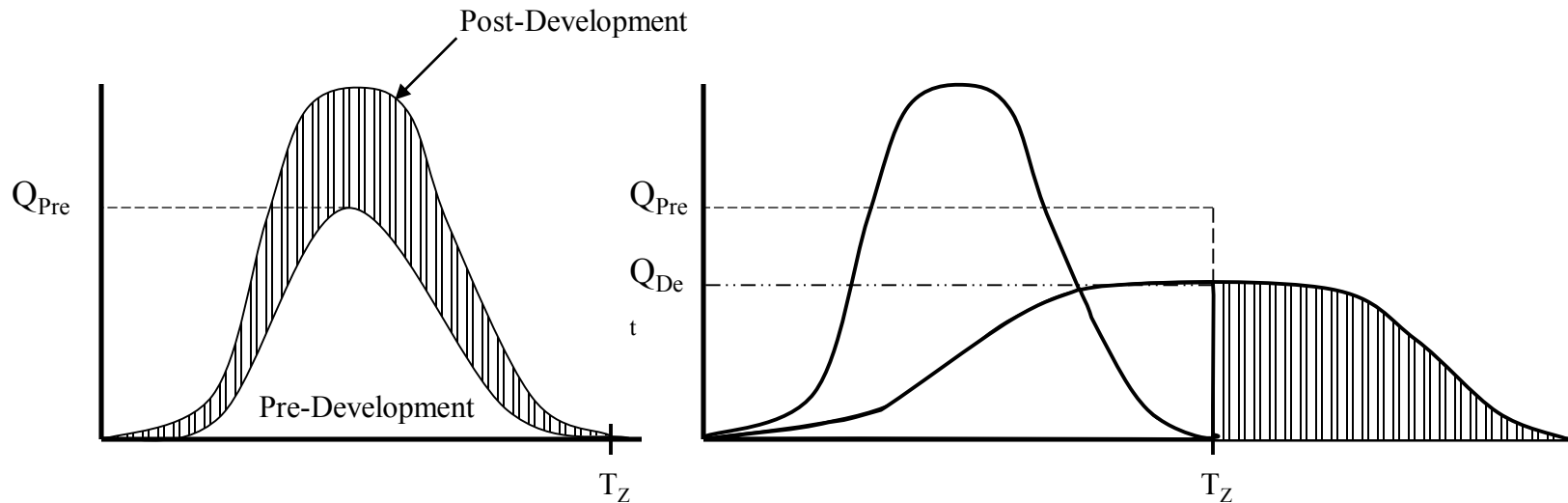


Table 4. Hydrologic Parameters

Basin Name	Node Name				Previous Study Basin ID	Previous Study CN	Previous Study Area	Previous Study TOC
		CN	Area Acres	TOC Mins				
B-A030	N-A030	83	536.7	300				
B-A040	N-A040	82	402.6	275				
B-A041	N-A040	83	388.4	270				
B-A060	N-A060	75	62.8	133				
B-A100	N-A100	82	52.0	129				
B-A120	N-A120	83	99.3	135				
B-A140	N-A140	79	348.5	260				
B-B020	N-B020	85	93.4	138				
B-B040	N-B040	88	9.1	27				
B-B060	N-B060	76	107.6	195				
B-B100	N-B100	78	26.3	87				
B-B140	N-B140	79	90.2	204				
B-B160	N-B160	84	37.9	76				
B-B170	N-B170	87	16.6	31				
B-B230	N-B230	89	25.2	32				
B-C010	N-C010	83	27.6	52				
B-C050	N-C050	80	7.6	51				
B-C080	N-C080	81	84.5	116				
B-C120	N-C120	84	60.7	100				
B-C130	N-C130	84	40.6	40				
B-C140	N-C140	85	12.2	37				
B-C150	N-C150	78	36.1	88				
B-C170	N-C170	82	101.2	61				
B-C190	N-C190	82	23.5	48				
B-C230	N-C230	84	48.0	28				
B-C270	N-C270	77	35.7	81				
B-D010	N-D010	76	23.1	103				
B-D020	N-D020	81	30.5	74				
B-D030	N-D030	86	56.5	84				
B-D050	N-D050	86	22.6	33				
B-D080	N-D080	84	6.8	38				
B-D110	N-D110	84	29.8	43				
B-D130	N-D130	85	15.6	71				
B-D131	N-D130	63	24.9	96				
B-D132	N-D130	80	46.3	93				
B-D140	N-D140	84	19.8	62				
B-D160	N-D160	86	76.4	42				
B-D190	N-D190	86	5.7	23				
B-D210	N-D210	86	18.5		++ B010A	83	18.53	54
B-D220	N-D220	86	11.7		++ B010	83	11.75	45
B-E010	N-E010	72	223.4	225				
B-E020	N-E020	84	5.4		++ B024	85	5.75	18
B-E030	N-E030	85	6.4		++ B023	85	6.47	24
B-E040	N-E040	86	21.1		++ B022	85	20.89	29
B-E050	N-E050	86	14.5		++ B021	85	14.49	20
B-E060	N-E060	86	4.3		++ B020	85	4.25	13
B-E070	N-E070	86	5.5		++ B019	84	5.64	17
B-E080	N-E080	86	7.6		++ B018	84	7.61	16
B-E090	N-E090	86	15.0		++ B012	84	14.98	49
B-E100	N-E100	86	18.4		++ B011	83	18.64	53
B-E110	N-E110	86	13.2		++ B005A	83	13.04	45
B-E120	N-E120	86	4.4		++ B008	82	4.37	25
B-E130	N-E130	85	3.6		++ B007	83	3.57	20
B-E140	N-E140	81	5.4		++ B006	81	5.37	25
B-E150	N-E150	86	3.0		++ B002	83	2.97	23
B-E160	N-E160	86	4.0		++ B001	83	3.97	29
B-E170	N-E170	86	9.3		++ B005	83	9.21	38
B-E180	N-E180	86	3.2		++ B004	83	3.2	26
B-E190	N-E190	86	5.1		++ B003	83	5.1	30
B-E200	N-E200	85	5.5		++ B017A	84	6.45	15
B-E210	N-E210	86	2.1		++ B017	84	2.15	10
B-E220	N-E220	86	6.7		++ B016	84	6.73	15
B-E230	N-E230	86	16.9		++ B015	84	20.1	30
B-E231	N-E230	79	3.8		* BOFF3	73	4	47
B-E240	N-E240	86	4.6		++ B014	84	4.48	12
B-E250	N-E250	83	6.7		++ B013	84	5.35	20
B-E251	N-E250	79	58.8		* BOFF2	73	59	142
B-E252	N-E250	79	55.8		* BOFF1	73	58	145
B-E260	N-E260	77	743.9	330				
B-E270	N-E270	81	8.1		* B025BOFF	77	7.94	49
B-F010	N-F010	80	41.8		++ B-BB1	86	43.19	49
B-F030	N-F030	75	15.8		++ B-AB4	86	16.46	30
B-F040	N-F040	78	5.2		++ B-AB3	86	4.84	13
B-F060	N-F060	63	25.1		++ B-AB2	79	24.34	20
B-F080	N-F080	73	6.6		++ B-AB1A	73	7.55	38
B-G020	N-G020	77	182.8	210				
B-G050	N-G050	77	76.1	180				
B-G060	N-G060	80	6.7		++ B-H1	86	6.22	23
B-G070	N-G070	81	3.3		++ B-H1	86	2.37	16
B-G080	N-G080	81	6.3		++ B-G1	86	5.29	14
B-G090	N-G090	81	7.1		++ B-F1	86	7.38	19
B-G110	N-G110	81	9.1		++ B-D1	85	7.36	13
B-G120	N-G120	81	7.8		++ B-C1	83	7.88	24
B-G130	N-G130	83	12.7		++ B-B1	83	11.79	28
B-G140	N-G140	82	5.7		++ B-A1	81	4.86	27
B-G150	N-G150	79	37.1		* B-OFF	67	37	123
B-G160	N-G160	79	4.5		++ B-E1	86	3.69	18
B-G180	N-G180	74	317.9	250				
B-G181	N-G180	72	202.5	220				

* Used new CN values with Previous Study's TOC values

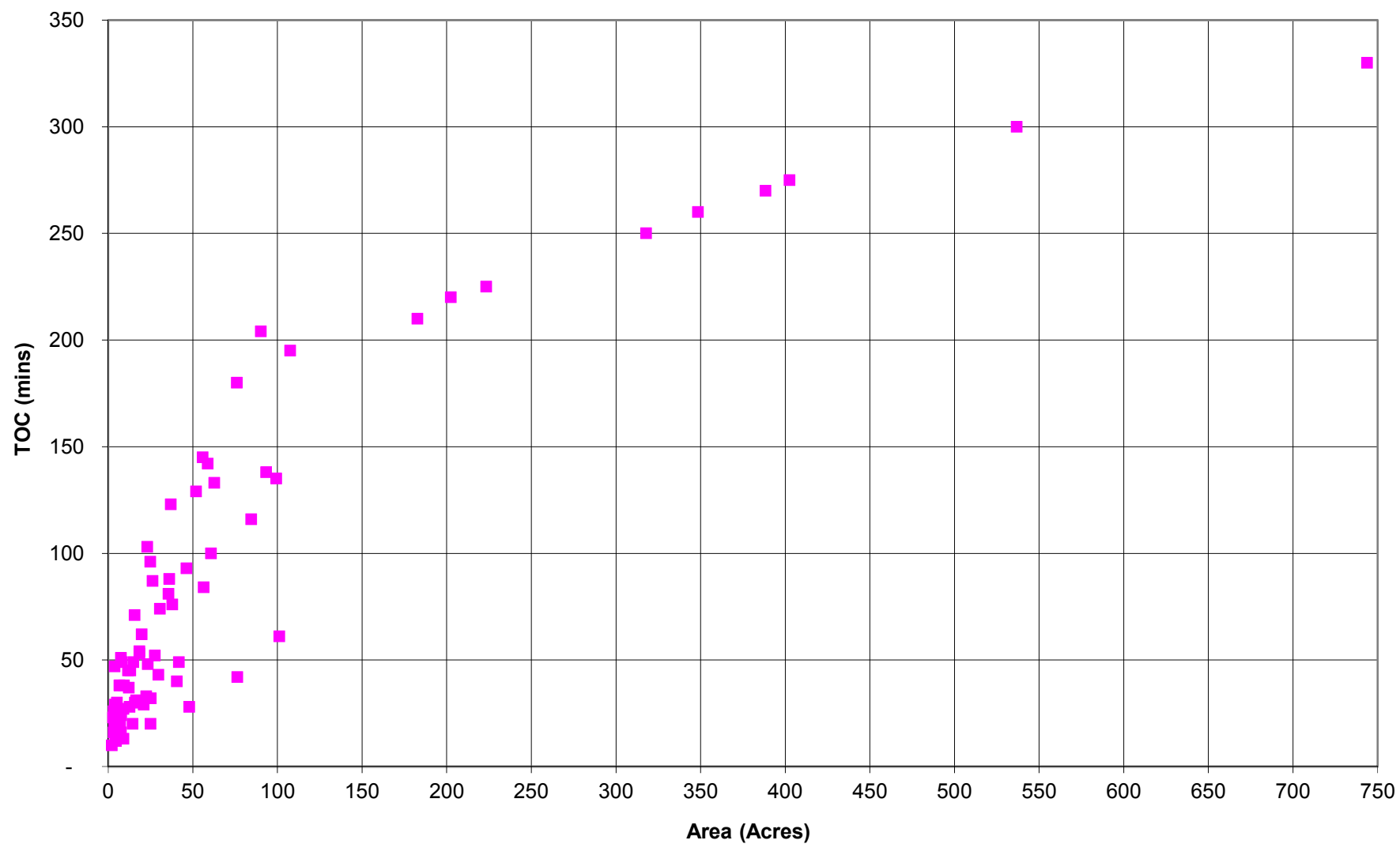
++ Used Previous Study's CN and TOC values

Total Area = 5,422 acres

AREA	BASIN_NUM	NODE_NAME	EX_CN	FUT_CN	IMP
	23380618.000 B-A030	N-A030		84	84 0.41
	17537844.000 B-A040	N-A040		83	83 0.32
	16918212.000 B-A041	N-A040		85	87 0.35
	2734957.250 B-A060	N-A060		76	76 0.19
	2263352.500 B-A100	N-A100		82	87 0.42
	4326200.000 B-A120	N-A120		83	90 0.36
	15180202.000 B-A140	N-A140		79	93 0.14
	4066473.000 B-B020	N-B020		85	85 0.28
	394320.906 B-B040	N-B040		88	88 0.44
	4685022.500 B-B060	N-B060		76	87 0.05
	1147253.250 B-B100	N-B100		78	81 0.12
	3930646.000 B-B140	N-B140		79	83 0.10
	1650213.500 B-B160	N-B160		84	84 0.23
	722032.000 B-B170	N-B170		87	87 0.35
	1096751.750 B-B230	N-B230		89	89 0.44
	1200215.125 B-C010	N-C010		83	83 0.20
	330826.625 B-C050	N-C050		80	80 0.20
	584948.500 B-C080	N-C080		77	92 0.07
	3097701.500 B-C090	N-C090		82	91 0.24
	2644876.000 B-C120	N-C120		84	84 0.38
	1768436.125 B-C130	N-C130		84	84 0.29
	530190.313 B-C140	N-C140		85	85 0.25
	1571676.875 B-C150	N-C150		78	78 0.13
	4408041.000 B-C170	N-C170		82	82 0.19
	1022340.313 B-C190	N-C190		82	82 0.17
	2090883.875 B-C230	N-C230		84	84 0.31
	1556368.375 B-C270	N-C270		77	77 0.08
	1006426.250 B-D010	N-D010		76	76 0.04
	1330415.250 B-D020	N-D020		81	81 0.15
	2461898.250 B-D030	N-D030		86	90 0.32
	982610.750 B-D050	N-D050		86	86 0.37
	297017.875 B-D080	N-D080		84	84 0.24
	1296479.875 B-D110	N-D110		84	84 0.25
	680009.500 B-D130	N-D130		85	85 0.26
	1086790.375 B-D131	N-D130		63	74 0.02
	2015678.125 B-D132	N-D130		80	86 0.06
	863923.250 B-D140	N-D140		84	84 0.23
	3328131.000 B-D160	N-D160		86	86 0.30
	248609.313 B-D190	N-D190		86	86 0.33
	807784.188 B-D210	N-D210		86	86 0.30
	511733.844 B-D220	N-D220		86	86 0.30
	9733348.000 B-E010	N-E010		72	80 0.01
	234915.469 B-E020	N-E020		84	84 0.22
	278457.781 B-E030	N-E030		85	85 0.27
	918001.563 B-E040	N-E040		86	86 0.30
	631987.563 B-E050	N-E050		86	86 0.30
	186364.469 B-E060	N-E060		86	86 0.30
	241246.656 B-E070	N-E070		86	86 0.30
	330803.281 B-E080	N-E080		86	86 0.30
	651379.875 B-E090	N-E090		86	86 0.30
	802635.500 B-E100	N-E100		86	86 0.30
	572973.563 B-E110	N-E110		86	86 0.30
	190539.984 B-E120	N-E120		86	86 0.30
	155732.281 B-E130	N-E130		85	85 0.30
	234828.938 B-E140	N-E140		81	81 0.30
	130114.719 B-E150	N-E150		86	86 0.30
	172787.875 B-E160	N-E160		86	86 0.30
	405188.938 B-E170	N-E170		86	86 0.29
	140471.859 B-E180	N-E180		86	86 0.30
	223308.594 B-E190	N-E190		86	86 0.30
	239649.016 B-E200	N-E200		85	85 0.26
	92990.977 B-E210	N-E210		86	86 0.30
	291678.438 B-E220	N-E220		86	86 0.30
	734343.125 B-E230	N-E230		86	86 0.30
	166854.703 B-E231	N-E230		79	86 0.00
	198269.906 B-E240	N-E240		86	86 0.30
	293246.219 B-E250	N-E250		83	86 0.19
	2562394.250 B-E251	N-E250		79	86 0.01
	2430287.500 B-E252	N-E250		79	86 0.00
	32403794.000 B-E260	N-E260		77	84 0.00
	351757.500 B-E270	N-E270		81	85 0.07
	1821549.625 B-F010	N-F010		80	80 0.27
	686432.500 B-F030	N-F030		75	76 0.19
	228570.531 B-F040	N-F040		78	78 0.24
	1093604.875 B-F060	N-F060		63	69 0.22
	289650.000 B-F080	N-F080		73	81 0.01
	7963621.000 B-G020	N-G020		77	83 0.08
	3313718.000 B-G050	N-G050		77	81 0.01
	290999.375 B-G060	N-G060		80	81 0.28
	142425.188 B-G070	N-G070		81	81 0.30
	275301.438 B-G080	N-G080		81	81 0.30
	309811.063 B-G090	N-G090		81	81 0.30
	13848709.000 B-G100	N-G100		74	82 0.01
	396944.125 B-G110	N-G110		81	81 0.29
	339655.031 B-G120	N-G120		81	81 0.30
	551946.563 B-G130	N-G130		83	83 0.30
	249274.344 B-G140	N-G140		82	82 0.31
	1614289.375 B-G150	N-G150		79	86 0.05
	195205.813 B-G160	N-G160		79	79 0.24
	8820292.000 B-G180	N-G180		72	81 0.03

81.206 91.159

Area verse Time of Concentration



Area Acres	TOC Mins
537	300
403	275
388	270
63	133
52	129
99	135
348	260
93	138
9	27
108	195
26	87
90	204
38	76
17	31
25	32
28	52
8	51
85	116
61	100
41	40
12	37
36	88
101	61
23	48
48	28
36	81
23	103
31	74
57	84
23	33
7	38
30	43
16	71
25	96
46	93
20	62
76	42
6	23
19	54
12	45
223	225
5	18
6	24
21	29
15	20
4	13
6	17
8	16
15	49
18	53
13	45
4	25
4	20
5	25
3	23
4	29
9	38
3	26
5	30
6	15
2	10
7	15
17	30
4	47
5	12
7	20
59	142
56	145
744	330
8	49
42	49
16	30
5	13
25	20
7	38
183	210
76	180
7	23
3	16
6	14
7	19
9	13
8	24
13	28
6	27
37	123
4	18
318	250
202	220

Monthly Means (W5)

Station -- Unique seven character identifier for the station
Year -- Year of data
Mo -- Month of data
MHW -- Mean High Water
MLW -- Mean Low Water
MSL -- Mean Sea Level
MN -- Difference between MHW and MLW
MTL -- Mean of MHW and MLW
MHHW -- Mean Higher-High Water
MLLW -- Mean Lower-Low Water
DHQ -- Difference between MHHW and MHW
DLQ -- Difference between MLW and MLLW
GT -- Difference between MHHW and MLLW
DTL -- Mean of MHHW and MLLW
HWI -- Greenwich Mean High Water Interval in Hours
LWI -- Greenwich Mean Low Water Interval in Hours

Data are in Feet above MLLW

Times are on UTC (GMT)

8665530 CHARLESTON, COOPER RIVER ENTRANCE, SC from 19900101 to 20010301

Station	Year	Mo	MHW	MLW	MSL	MN	MTL	MHHW	MLLW	DHQ	DLQ	GT	DTL	HWI	LWI
8665530	1990	1	4.92	-0.31	2.39	5.23	2.3	5.26	-0.52	0.34	0.21	5.78	2.37	0.27	6.5
8665530	1990	2	5.11	-0.08	2.62	5.19	2.52	5.44	-0.33	0.33	0.25	5.77	2.56	0.35	6.56
8665530	1990	3	5.55	0.33	3.06	5.22	2.94	5.89	0.14	0.34	0.19	5.75	3.02	0.32	6.47
8665530	1990	4	5.35	0.15	2.88	5.21	2.75	5.75	-0.03	0.4	0.17	5.78	2.86	0.25	6.44
8665530	1990	5	5.48	0.26	2.99	5.22	2.87	5.89	0.05	0.4	0.21	5.84	2.97	0.37	6.56
8665530	1990	6	5.63	0.48	3.19	5.16	3.05	6.09	0.26	0.46	0.22	5.83	3.17	0.37	6.6
8665530	1990	7	5.5	0.43	3.09	5.07	2.97	5.94	0.2	0.44	0.23	5.74	3.07	0.48	6.66
8665530	1990	8	5.63	0.64	3.28	4.99	3.14	6.05	0.43	0.42	0.21	5.62	3.24		
8665530	1990	9	5.94	0.9	3.58	5.04	3.42	6.26	0.77	0.32	0.13	5.49	3.51		
8665530	1990	10	5.96	0.87	3.56	5.09	3.41	6.29	0.67	0.33	0.2	5.62	3.48	0.47	6.65
8665530	1990	11	5.82	0.6	3.36	5.22	3.21	6.26	0.41	0.44	0.19	5.85	3.33		
8665530	1990	12	5.56	0.26	3.04	5.3	2.91	6.01	0.03	0.45	0.23	5.98	3.02		
8665530	1991	1	5.76	0.46	3.25	5.3	3.11	6.19	0.22	0.43	0.24	5.97	3.2		
8665530	1991	2	5.26	0.05	2.74	5.21	2.65	5.59	-0.19	0.33	0.24	5.78	2.7		
8665530	1991	3	5.58	0.33	3.07	5.25	2.95	5.89	0.14	0.31	0.19	5.75	3.02	0.36	6.59
8665530	1991	4	5.51	0.33	3.04	5.18	2.92	5.88	0.18	0.37	0.15	5.7	3.03	0.32	6.57
8665530	1991	5	5.8	0.68	3.37	5.12	3.24	6.23	0.5	0.42	0.18	5.73	3.36	0.32	6.57
8665530	1991	6	5.97	0.85	3.53	5.12	3.41	6.42	0.64	0.45	0.2	5.78	3.53	0.49	6.76
8665530	1991	7	5.79	0.52	3.29	5.28	3.15	6.18	0.33	0.38	0.18	5.84	3.25	0.37	6.6
8665530	1991	8	5.85	0.61	3.37	5.24	3.23	6.2	0.43	0.35	0.19	5.78	3.31	0.34	6.57
8665530	1991	9	6.23	1.13	3.8	5.1	3.68	6.53	0.94	0.3	0.19	5.59	3.73	0.51	6.68
8665530	1991	10	6.24	1.13	3.82	5.11	3.68	6.59	1.02	0.35	0.11	5.57	3.81	0.48	6.73
8665530	1991	11	5.9	0.73	3.44	5.17	3.32	6.32	0.58	0.42	0.15	5.74	3.45	0.45	6.68
8665530	1991	12	5.18	0.04	2.72	5.14	2.61	5.58	-0.16	0.4	0.2	5.74	2.71	0.38	6.62
8665530	1992	1	5.41	0.27	2.95	5.14	2.84	5.85	0.03	0.44	0.24	5.82	2.94	0.39	6.58
8665530	1992	2	5.52	0.38	3.08	5.14	2.95	5.82	0.12	0.3	0.26	5.7	2.97	0.35	6.61
8665530	1992	3	5.19	0	2.72	5.2	2.6	5.46	-0.19	0.27	0.19	5.65	2.64	0.31	6.5
8665530	1992	4	5.58	0.4	3.11	5.19	2.99	5.94	0.25	0.36	0.14	5.69	3.1	0.36	6.54
8665530	1992	5	5.9	0.74	3.46	5.16	3.32	6.33	0.53	0.43	0.21	5.8	3.43	0.39	6.69
8665530	1992	6	6.13	0.9	3.66	5.23	3.52	6.6	0.67	0.47	0.24	5.93	3.63	0.34	6.6
8665530	1992	7	5.6	0.2	3.02	5.4	2.9	6.03	-0.02	0.43	0.22	6.05	3	0.35	6.56
8665530	1992	8	5.76	0.39	3.2	5.36	3.07	6.07	0.16	0.31	0.23	5.9	3.11	0.45	6.59
8665530	1992	9	6.1	0.92	3.63	5.18	3.51	6.41	0.76	0.31	0.16	5.65	3.58	0.44	6.63
8665530	1992	10	6.19	1.09	3.78	5.1	3.64	6.51	0.93	0.32	0.17	5.58	3.72	0.48	6.71
8665530	1992	11	5.94	0.79	3.49	5.15	3.36	6.28	0.63	0.34	0.16	5.65	3.46	0.51	6.73
8665530	1992	12	5.36	0.26	2.92	5.1	2.81	5.71	0.03	0.35	0.23	5.67	2.87	0.48	6.69
8665530	1993	1	5.79	0.73	3.37	5.05	3.26	6.16	0.55	0.37	0.19	5.61	3.35	0.38	6.62
8665530	1993	2	5.81	0.59	3.34	5.22	3.2	6.05	0.38	0.24	0.21	5.67	3.21	0.39	6.59
8665530	1993	3	5.31	0.11	2.81	5.2	2.71	5.71	-0.17	0.4	0.28	5.88	2.77	0.31	6.54
8665530	1993	4	5.61	0.3	3.08	5.31	2.96	5.96	0.12	0.35	0.18	5.84	3.04	0.24	6.47
8665530	1993	5	5.68	0.31	3.13	5.37	2.99	6.04	0.13	0.37	0.18	5.91	3.09	0.33	6.56
8665530	1993	6	5.69	0.38	3.17	5.31	3.04	6.11	0.21	0.42	0.17	5.91	3.16	0.37	6.59
8665530	1993	7	5.57	0.25	3.04	5.32	2.91	5.98	0.01	0.41	0.23	5.96	3	0.38	6.58
8665530	1993	8	5.76	0.53	3.27	5.23	3.14	6.04	0.33	0.28	0.2	5.71	3.18	0.42	6.58
8665530	1993	9	5.85	0.67	3.4	5.18	3.26	6.08	0.5	0.23	0.17	5.58	3.29	0.4	6.6
8665530	1993	10	6.14	1.04	3.73	5.1	3.59	6.44	0.9	0.3	0.13	5.53	3.67	0.48	6.72
8665530	1993	11	5.87	0.68	3.39	5.18	3.27	6.2	0.47	0.33	0.21	5.73	3.34	0.41	6.64
8665530	1993	12	5.59	0.28	3.07	5.31	2.94	5.94	0.04	0.35	0.23	5.9	2.99	0.36	6.6
8665530	1994	1	5.26	-0.11	2.66	5.37	2.58	5.58	-0.34	0.32	0.23	5.92	2.62	0.26	6.52
8665530	1994	2	5.53	0.26	3.01	5.27	2.9	5.81	0.06	0.27	0.21	5.75	2.93	0.26	6.51
8665530	1994	3	5.53	0.09	2.93	5.44	2.81	5.81	-0.12	0.28	0.21	5.93	2.84	0.28	6.53
8665530	1994	4	5.34	-0.02	2.79	5.36	2.66	5.68	-0.14	0.34	0.12	5.82	2.77	0.27	6.5
8665530	1994	5	5.88	0.62	3.39	5.27	3.25	6.26	0.44	0.38	0.18	5.82	3.35	0.38	6.59
8665530	1994	6	5.55	0.22	3.01	5.33	2.89	5.97	0.01	0.42	0.21	5.96	2.99	0.38	6.63
8665530	1994	7	5.34	0.09	2.82	5.26	2.72	5.72	-0.14	0.38	0.23	5.87	2.79	0.36	6.55
8665530	1994	8	5.61	0.48	3.17	5.13	3.05	5.95	0.28	0.33	0.2	5.67	3.11	0.33	6.54

8665530	1994	9	6	0.88	3.57	5.12	3.44	6.3	0.74	0.3	0.14	5.57	3.52	0.32	6.55
8665530	1994	10	6.36	1.13	3.9	5.23	3.75	6.62	1.01	0.26	0.12	5.61	3.81	0.46	6.67
8665530	1994	11	5.84	0.51	3.3	5.33	3.18	6.17	0.32	0.33	0.19	5.85	3.25	0.46	6.69
8665530	1994	12	6.36	0.94	3.79	5.42	3.65	6.76	0.74	0.4	0.19	6.02	3.75	0.49	6.75
8665530	1995	1	5.61	0.12	3	5.49	2.87	5.97	-0.07	0.36	0.2	6.05	2.95	0.39	6.59
8665530	1995	2	5.14	-0.19	2.6	5.33	2.48	5.41	-0.39	0.27	0.2	5.8	2.51	0.3	6.5
8665530	1995	3	5.82	0.45	3.26	5.37	3.13	6.06	0.3	0.24	0.15	5.76	3.18	0.36	6.55
8665530	1995	4	5.78	0.46	3.26	5.32	3.12	6.11	0.32	0.33	0.14	5.79	3.22	0.37	5.6
8665530	1995	5	5.91	0.65	3.42	5.26	3.28	6.29	0.47	0.38	0.18	5.82	3.38	0.35	6.52
8665530	1995	6	5.85	0.57	3.35	5.29	3.21	6.27	0.42	0.42	0.15	5.85	3.34	0.32	6.59
8665530	1995	7	5.78	0.39	3.23	5.4	3.09	6.14	0.22	0.36	0.17	5.93	3.18	0.34	6.58
8665530	1995	8	6.48	1.16	3.97	5.32	3.82	6.76	0.99	0.28	0.17	5.77	3.87	0.49	6.67
8665530	1995	9	6.53	1.3	4.06	5.24	3.91	6.81	1.15	0.28	0.15	5.67	3.98	0.5	6.71
8665530	1995	10	6.31	1.02	3.81	5.29	3.67	6.6	0.9	0.29	0.12	5.7	3.75	0.56	6.73
8665530	1995	11	5.79	0.46	3.25	5.33	3.12	6.15	0.28	0.36	0.18	5.87	3.21	0.44	6.64
8665530	1995	12	5.74	0.4	3.21	5.34	3.07	6.09	0.23	0.35	0.17	5.86	3.16	0.48	6.72
8665530	1996	1	5.43	0.12	2.88	5.3	2.78	5.79	-0.12	0.36	0.25	5.91	2.83	0.42	6.65
8665530	1996	2	5.24	-0.15	2.65	5.38	2.54	5.51	-0.31	0.27	0.16	5.82	2.6	0.35	6.56
8665530	1996	3	5.22	-0.09	2.66	5.31	2.56	5.46	-0.25	0.25	0.16	5.71	2.61	0.42	6.63
8665530	1996	4	5.31	-0.06	2.74	5.36	2.63	5.59	-0.21	0.28	0.16	5.8	2.69	0.33	6.52
8665530	1996	5	5.68	0.2	3.05	5.48	2.94	6.03	0.02	0.35	0.18	6.01	3.02	0.41	6.61
8665530	1996	6	5.65	0.26	3.09	5.39	2.96	6.04	0.06	0.39	0.2	5.98	3.05	0.4	6.59
8665530	1996	7	5.53	-0.07	2.83	5.59	2.73	5.92	-0.34	0.4	0.28	6.26	2.79	0.38	6.61
8665530	1996	8	5.88	0.36	3.24	5.51	3.12	6.14	0.16	0.26	0.2	5.97	3.15	0.39	6.61
8665530	1996	9	6.04	0.72	3.52	5.32	3.38	6.25	0.58	0.2	0.14	5.67	3.41	0.5	6.67
8665530	1996	10	6.29	1.04	3.81	5.26	3.66	6.58	0.87	0.29	0.16	5.71	3.73	0.52	6.77
8665530	1996	11	5.94	0.74	3.46	5.19	3.34	6.23	0.57	0.3	0.17	5.66	3.4	0.53	6.73
8665530	1996	12	5.66	0.4	3.15	5.26	3.03	5.95	0.2	0.29	0.2	5.75	3.08	0.46	6.63
8665530	1997	1	5.42	0.12	2.88	5.3	2.77	5.71	-0.15	0.29	0.27	5.86	2.78	0.38	6.65
8665530	1997	2	5.68	0.22	3.07	5.46	2.95	5.91	0.05	0.22	0.17	5.85	2.98	0.45	6.6
8665530	1997	3	5.63	0.29	3.09	5.34	2.96	5.89	0.1	0.26	0.19	5.79	3	0.41	6.65
8665530	1997	4	5.95	0.55	3.41	5.4	3.25	6.2	0.39	0.24	0.17	5.81	3.29	0.41	6.66
8665530	1997	5	5.73	0.27	3.14	5.47	3	6.07	0.1	0.34	0.17	5.97	3.08	0.41	6.67
8665530	1997	6	6.09	0.69	3.53	5.39	3.39	6.45	0.5	0.36	0.2	5.95	3.47	0.47	6.77
8665530	1997	7	5.9	0.48	3.33	5.42	3.19	6.28	0.28	0.38	0.2	6	3.28	0.46	6.7
8665530	1997	8	6.02	0.74	3.52	5.29	3.38	6.31	0.57	0.29	0.17	5.74	3.44	0.45	6.66
8665530	1997	9	6.22	0.95	3.73	5.27	3.58	6.47	0.82	0.26	0.13	5.66	3.65	0.51	6.72
8665530	1997	10	6.04	0.84	3.58	5.2	3.44	6.28	0.71	0.24	0.13	5.57	3.49	0.48	6.71
8665530	1997	11	5.64	0.33	3.12	5.31	2.99	5.97	0.15	0.33	0.18	5.82	3.06	0.46	6.68
8665530	1997	12	5.58	0.17	3	5.41	2.87	5.95	-0.03	0.37	0.2	5.98	2.96	0.45	6.71
8665530	1998	1	5.62	0.12	3.02	5.49	2.87	6	-0.06	0.38	0.18	6.06	2.97	0.39	6.63
8665530	1998	2	6.16	0.74	3.59	5.42	3.45	6.45	0.52	0.29	0.22	5.93	3.48	0.39	6.73
8665530	1998	3	5.72	0.11	3.04	5.6	2.92	5.99	-0.07	0.27	0.18	6.06	2.96	0.38	6.63
8665530	1998	4	5.74	0.26	3.13	5.49	3	6.07	0.09	0.32	0.17	5.98	3.08	0.4	6.67
8665530	1998	5	6	0.6	3.45	5.4	3.3	6.38	0.45	0.39	0.15	5.94	3.42	0.43	6.67
8665530	1998	6	5.59	0.18	3.02	5.41	2.89	5.96	0.02	0.37	0.16	5.94	2.99	0.45	6.66
8665530	1998	7	5.48	0.18	2.95	5.3	2.83	5.87	-0.02	0.38	0.21	5.89	2.92	0.43	6.66
8665530	1998	8	5.67	0.46	3.19	5.21	3.06	6	0.24	0.34	0.22	5.76	3.12	0.46	6.71
8665530	1998	9	5.87	0.58	3.37	5.3	3.23	6.17	0.43	0.3	0.15	5.74	3.3	0.46	6.66
8665530	1998	10	5.88	0.62	3.38	5.25	3.25	6.15	0.49	0.27	0.13	5.65	3.32	0.52	6.74
8665530	1998	11	5.65	0.3	3.09	5.36	2.97	5.94	0.17	0.29	0.12	5.76	3.06	0.46	6.73
8665530	1998	12	5.72	0.22	3.09	5.5	2.97	6.09	0.02	0.37	0.21	6.07	3.05	0.57	6.83
8665530	1999	1	5.63	0.16	3.01	5.47	2.89	5.97	-0.06	0.34	0.22	6.04	2.96	0.51	6.73
8665530	1999	2	5.95	0.65	3.45	5.29	3.3	6.19	0.44	0.25	0.21	5.75	3.32	0.5	6.71
8665530	1999	3	5.68	0.3	3.11	5.38	2.99	5.94	0.11	0.26	0.19	5.83	3.03	0.5	6.72
8665530	1999	4	5.73	0.41	3.2	5.31	3.07	6.01	0.24	0.29	0.17	5.77	3.13	0.5	6.71
8665530	1999	5	6.01	0.71	3.49	5.31	3.36	6.39	0.57	0.38	0.13	5.82	3.48	0.52	6.74
8665530	1999	6	5.87	0.65	3.39	5.22	3.26	6.29	0.45	0.42	0.2	5.84	3.37	0.49	6.7
8665530	1999	7	5.72	0.36	3.17	5.36	3.04	6.11	0.17	0.38	0.19	5.94	3.14	0.46	6.7
8665530	1999	8	6.14	0.74	3.6	5.4	3.44	6.44	0.5	0.31	0.24	5.95	3.47	0.51	6.77
8665530	1999	9	6.53	1.22	4.03	5.31	3.88	6.85	1.04	0.32	0.18	5.8	3.95	0.63	6.83
8665530	1999	10	6.44	1.19	3.96	5.25	3.81	6.74	1	0.3	0.19	5.74	3.87	0.55	6.77
8665530	1999	11	5.94	0.62	3.41	5.32	3.28	6.28	0.46	0.34	0.16	5.82	3.37	0.52	6.71
8665530	1999	12	5.74	0.47	3.24	5.28	3.1	6.13	0.29	0.39	0.17	5.84	3.21	0.53	6.76
8665530	2000	1	5.52	0.26	3	5.26	2.89	5.89	0.07	0.37	0.19	5.83	2.98	0.47	6.67
8665530	2000	2	5.35	0.04	2.81	5.31	2.69	5.62	-0.17	0.27	0.21	5.79	2.72	0.38	6.61
8665530	2000	3	5.62	0.44	3.15	5.19	3.03	5.95	0.3	0.32	0.14	5.65	3.12	0.45	6.7
8665530	2000	4	5.59	0.32	3.08	5.27	2.95	5.9	0.15	0.31	0.17	5.75	3.02	0.46	6.66
8665530	2000	5	5.78	0.42	3.24	5.37	3.1	6.17	0.23	0.39	0.19	5.94	3.2	0.45	6.66
8665530	2000	6	5.72	0.32	3.14	5.39	3.02	6.15	0.1	0.43	0.22	6.05	3.13	0.47	6.66
8665530	2000	7	6.01	0.6	3.46	5.41	3.3	6.43	0.36	0.42	0.24	6.07	3.39	0.45	6.74
8665530	2000	8	6.13	0.76	3.6	5.37	3.45	6.49	0.55	0.35	0.21	5.94	3.52	0.5	6.72
8665530	2000	9	6.34	1.15	3.89	5.18	3.74	6.62	0.97	0.29	0.18	5.65	3.79	0.58	6.82
8665530	2000	10	6.32	1.16	3.88	5.15	3.74	6.57	1.04	0.26	0.12	5.53	3.81	0.6	6.8
8665530	2000	11	6	0.85	3.56	5.15	3.42	6.36	0.69	0.36	0.16	5.68	3.52	0.52	6.76
8665530	2000	12	5.5	0.3	3.01	5.2	2.9	5.88	0.04	0.38	0.26	5.84	2.96	0.5	6.71
8665530	2001	1	5.22	-0.05	2.7	5.27	2.59	5.6	-0.26	0.37	0.22	5.86	2.67	0.41	6.55
8665530	2001	2	5.31	-0.09	2.71	5.4	2.61	5.63	-0.29	0.32	0.2	5.93	2.67	0.43	6.65

	MHW	MLW	MSL	MN	MTL	MHHW	MLLW	DHQ	DLQ	GT	DTL	HWI	LWI
Maximum	6.53	1.3	4.06	5.6	3.91	6.85	1.15	0.47	0.28	6.26	3.98	0.63	6.83
Average	5.75	0.47	3.24	5.28	3.11	6.09	0.28	0.34	0.19	5.81	3.19	0.42	6.64
Minimun	4.92	-0.31	2.39	4.99	2.3	5.26	-0.52	0.2	0.11	5.49	2.37	0.24	5.6

Appendix E – ICPR Network

Appendix F – Floodplain Boundary Map